

JANUARY 1911 ~ N° 61

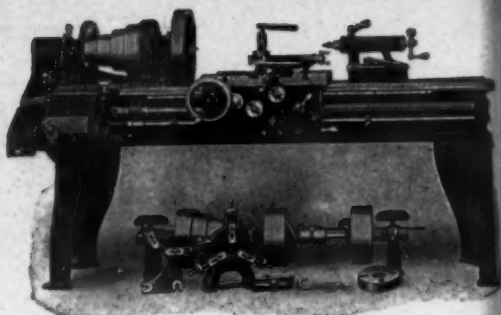
Issued Every Month

For Free Distribution to Users
of Machine Tools

HITCHCOCK'S
MACHINE
TOOL LIST

A Reference Book for Buyers
of Iron Working Machinery

Published by
A. H. HITCHCOCK
1220-1235 Caxton Building
Chicago



14-inch Lathe.

Tool Makers Prefer Champion Lathes

For their accuracy and convenience, while the man who pays the bills prefers them because they represent the least outlay for a highly satisfactory article.

Have you tried one? If not, you'll want to investigate the latest "Champion" to set the pace in your tool work. You can save and make at the same time.

**Greater capacity,
Greater conveniences,
Greater accuracy.**

Write for catalogue of 10-12-14-16 & 18 inch sizes; Quick Change or New Standard, with or without Taper Attachment, Draw-in Attachment, Oil Pan, etc.

Champion Tool Works Company
2426 Spring Grove Ave., Cincinnati, Ohio, U. S. A.

THE ACME AUTOMATIC FOR 1911



FINISH your screws, nuts, bolts, plugs, pins etc., in the time of one operation.

The Acme has four spindles and performs eight or more operations in the time of the longest.

It is Accurate, Durable and Economical

THE NATIONAL-ACME MFG. CO.
Cleveland, Ohio

NEW YORK, 77 White St. CHICAGO, 549 Washington Blvd.
BOSTON, 141 Milk St. DETROIT, 1222 Majestic Bldg.
MONTREAL, St. Elizabeth St. & G.T. Ry. ATLANTA, Candler Bldg.

Bench Milling Machine

New Model

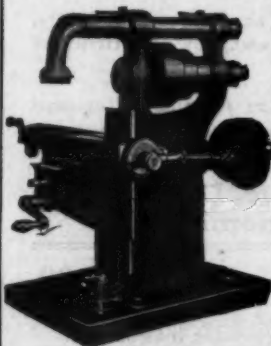


Yes, a small machine, but quick operating, and just right for those light milling cuts. We have sold hundreds of them and they always please. Vise, centers, and two speed friction counter-shaft furnished with this machine.

Send for circular

The Carter & Hakes Co.
West Winsted, Conn., U. S. A.

Burke's Bench Miller



Milling Machine

A Seasoned Tool

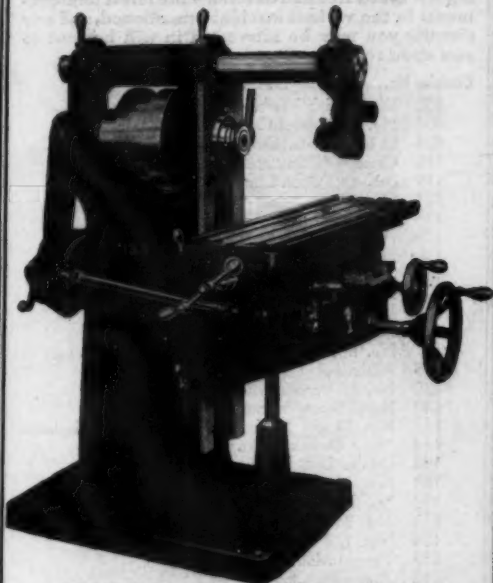
The tool to buy if you want extreme accuracy and permanent alignment five years hence as well as now. In making this miller the greatest care is taken thoroughly to season all castings both before and after machining. We carry these frames and parts from six to eight months after work begins on them before the final finishing is done. The result is a tool that is accurate and will stay accurate as long as you use it. For precision work it has no equal.

Longitudinal feed, 8 1/2 in.;
transverse feed, 4 in.; vertical
motion of knee, 8 1/2 in.;
table surface, 2 1/2 x 16 inch.

BURKE MACHINE CO.
Conneaut, Ohio

GARVIN No. 13½ Plain Milling Machine
Rigid—Powerful—Durable

For all High Grade Plain Milling. Accurate and Rigid
under the most exacting cuts. Immediate Delivery.



GARVIN No. 13½ Plain Milling Machine

Adjustments:- ins. 24x7x19

FOR FURTHER | **ASK YOUR DEALER**
INFORMATION | **OR**
WRITE US DIRECT

Send for circular No. 130

Manufactured by

THE GARVIN MACHINE CO.

Spring and Varick Sts., New York City

Garvin Circulars

Frequent changes necessitate issuing circulars to keep our printed matter up to date. The following list illustrates and describes the latest improvements in the various machines mentioned, and any circular you may be interested in will be sent to you upon request.

Circular No.	Machine
100	Die Slotting Machine.
102	No. 3 Universal Cutter Grinder.
104	Double Geared Dividing Head.
118	Grinders (Cutter and Surface).
119	Stop and Open Chucks.
121	Cam Cutter.
128	No. 1 $\frac{1}{2}$ Universal Milling Machine.
129	Automatic Chucks.
130	Nos. 13 and 13 $\frac{1}{2}$ Plain Milling Machines.
133	Automatic Chucks.
*134	No. 2 Manufacturing Universal Milling Machine.
135	No. 2-A Universal Milling Machine.
136	No. 15 Plain Milling Machine, 60 in. feed.
137	No. 14 Manufacturing Plain Milling Machine.
138	Automatic Tappers.
*139	No. 22 Vertical Milling Machine.
140	Rapid Screw Slotter.
142	Nos. 14 and 15 Vertical Spindle Milling Machines.
143	No. 3 Duplex Milling Machine.
144	Duplex Drill Lathes.
150	Nos. 11 and 12 Plain Milling Machines.
152	No. 2 Hole Grinding Machine.
153	Nos. 21 and 22 Plain Milling Machines.
154	Nos. 1, 2 and 3 Hand Milling Machines.
155	Thread Milling Attachment.
156	Automatic Chucks.

*In Press.

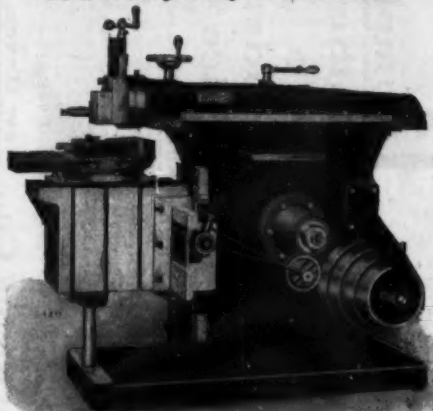
FOR FURTHER INFORMATION } ASK YOUR DEALER
OR
WRITE US DIRECT

The Garvin Machine Co.

Spring and Varick Sts., New York City

Top Notch Shaper Service

Is What You Buy When You Invest
in a Heavy Duty "Cincinnati"



24-inch, Back Geared

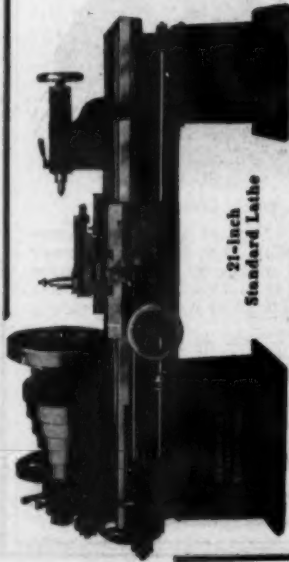
BOILED DOWN to the last analysis, it is service you want; a machine that has the accuracy and convenience that makes for daily maximum productive capacity. It is this quality that has made our Shapers so popular with close-figuring manufacturers.

Note especially the power of the "Cincinnati" to take deep cuts, their rigidity to stand up under heavy work, and their generous margin of strength that insures dependability under all emergencies and requirements.

Get our free Shaper Book and learn how we make 'em—Shapers of all kinds and dimensions; you'll be glad to have the facts about them.

The Cincinnati Shaper Co.

Colerain Ave. and Elam St., CINCINNATI, OHIO.



21-inch
Standard Lathe

A Complete Lathe At a Moderate Price

The cost of building lathes depends upon the shop equipment. We have the organisation and equipment for manufacturing at rock-bottom cost.

Our Standard Lathes--18 to 28-in. swing--are tools of exceptional value for the moderate price at which they are sold.

Our Improved Engine Lathes--24 to 65-in. swing--are "highest quality" tools throughout; but even on these high-grade lathes our methods of production keep the price within moderation.

And remember that for 60 years New Haven Tools have always been reliable and dependable.

A right-quality and right-priced Lathe for every need. What's yours?

New Haven Manufacturing Co., New Haven, Conn.



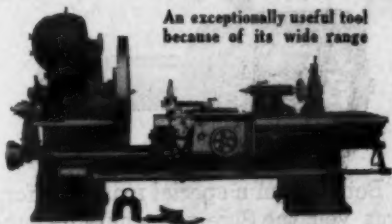
Operating Cincinnati Lathes

is a pleasure. Correct construction assures reliable performance under all conditions. Any details sent upon request about these latest lathes that have a **double wall apron, chasing dial, automatic stop, 2 kinds of Geared Feed Boxes, 3 or 5 step Cones.**

The Cincinnati Lathe & Tool Company

2730-32 Spring Grove Avenue, : : : Cincinnati, Ohio

Extension Gap Engine Lathe



**An exceptionally useful tool
because of its wide range**

This improved lathe, while handling work of large diameter and extra length, does all work, small as well as large, most accurately and economically. Its construction is careful and thorough in every way, and its handiness is increased by a number of special features. Belt or motor drive.

Glad to tell you more about this big dividend owner

FAY & SCOTT,

Dexter, Maine

Standard Engine, Chucking, Turret, Double Head Facing and Pattern Makers' Lathes; Lathe Turrets for any make of Engine Lathes.

If You Are Interested

In the Cutting of

Taper Screw Threads

of any kind or size,

**The Geometric
Taper Threading Die Heads**

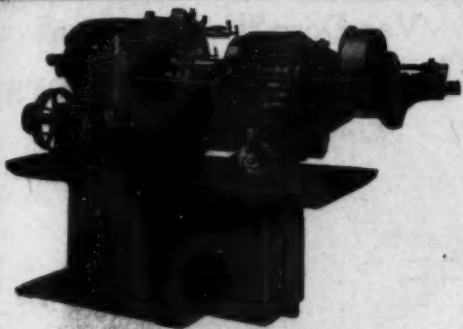
applied to the turret of your Screw Machine or Turret Lathe, will give you accuracy and large production at very low cost of installation.



Better than a special machine, for it leaves you the Screw Machine for other work when not cutting tapers.

*Write for particulars to-day, and
tell us your requirements.*

The Geometric Tool Company
New Haven, Conn., U. S. A.



The "Lester"

Multiple Spindle Automatic Screw Machine

Neat design, powerful gear drive, simplicity of tools and easy access for tool setting. Accurate feeding without cam, lever or springs. Micrometer adjustment to feed. Die, tap and rod spindles do not stop or reverse to remove solid die or tap, all running in a right hand direction. All tools are right-handed.

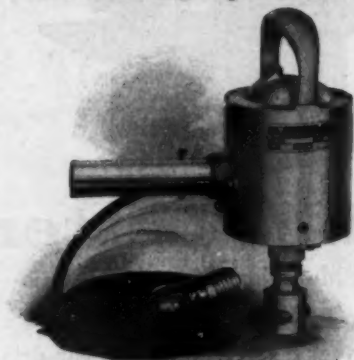
For complete catalogue write

MACHINERY DEPARTMENT

The Davis Sewing Machine Co.
Dayton, Ohio

Van Dorn "Hard Service"
Drills and Reamers

Electrically Operated



**Economical - Efficient
Dependable**

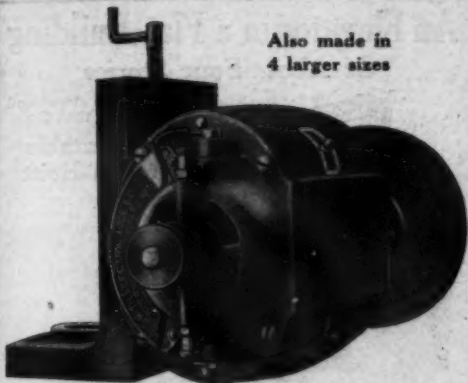
Built in 6 sizes, scope 0-2 inches

Your *Ultimate* portable tools if you want
the *greatest output* in the *least time* at
the *lowest cost*. Others are doing it, *why*
not you?

Write for Bulletin No. 20

The Van Dorn & Dutton Co.
Cleveland

New York - Chicago - Pittsburg - San Francisco



Also made in
4 larger sizes

A Portable Electric Grinder That's Absolutely Universal

Full Universal—With even a wider scope than stationary universals.

Adjustments—Up-and-down and angle; equally efficient at any angle.

Capacity—Removes .006 in. on average work, and finishes to .0001 in.

Variable Speed—Adds neither weight nor complication, and adjusts instantly to any speed between 3,400 or 4,800 r. p. m.

No Overheating on a continuous run at any load.

Construction—Simple and durable; we guarantee its absolute dependability.

*Descriptive Bulletin No. 1
illustrates several interesting operations*

The Smith Electric Tool Co.
Cincinnati, Ohio

NOTE:—Our line of high grade Electric Drills is now ready for delivery.

An Elevator in a Flat Building Of About Four Stories



doesn't save the legs and
"wind" any more than the

Canton Portable Crane and Hoist

saves arms, backs and fingers; and in the saving of time the Crane and Hoist is away in the lead. *It is simply indispensable* in the modern shop. We first made this handy tool for our own use, after loading others to the breaking point, and we offer you the benefit of our own experience.

*Description booklet?
Or a free trial?*

The Canton Foundry & Machine Co., Canton, O.

Electric and Hand Power Cranes Electric Hoists



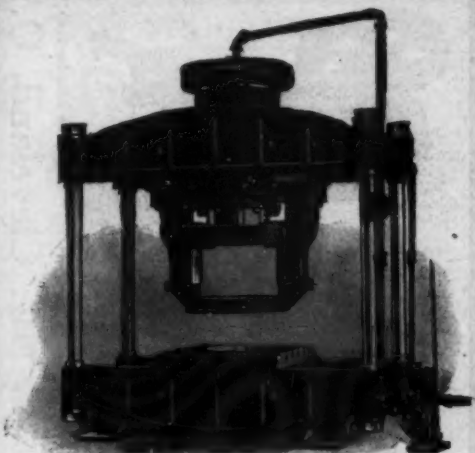
Hook Suspension
Hoists that can be hung
up anywhere.

Trolley Hoists to run
on any kind of track,
hand or power travel.
Can be operated from
floor below or from a
cab attached to hoist or from
any place in the building.

One man with an electric hoist
replaces several men using hand
power hoists.

The Electric Hoist will repay
first cost in from 2 to 12 months.

The Euclid Crane & Hoist Company
Euclid, Ohio



Uncle Sam Bought This Watson-Stillman Hydraulic Punch

This tool was made for the Mare Island Navy Yard, where it is used for punching 18-in. by 21 in. boiler manholes through $\frac{5}{8}$ -in. steel plate. The punch and die (not shown) are bolted to the moving and bottom platens respectively. We don't advertise this tool in the hope that you readers are building any navy yards, *but* we do wish to impress upon you that we are constantly building special hydraulic tools and are ready to meet unusual requirements wherever hydraulic power is practical.

The Watson-Stillman Company

Church & Fulton Sts., New York

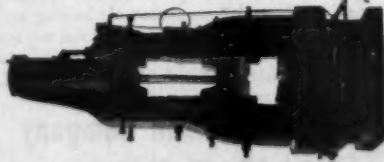
Osborne Steam Hammers and Trimming Presses

Sold direct to users at prices based on actual shop cost, eliminating usual over-head shop charge and dealer's or jobber's profit.

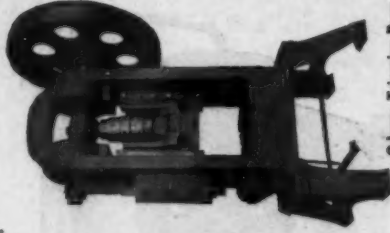
The Osborne Hammers are made of steel castings throughout, except cylinders, which are semi-steel. Operate equally well with compressed air, and are heavy enough to withstand the hardest duty.

Osborne Trimming Presses are equally well built, of latest design, and sold at a price which will astonish you.

Write for blue prints, photos and full specifications, together with my direct-to-you price proposition.



The Osborne Hammer



Osborne Trimming Press

Don M. Osborne, Engineers' Bldg., Cleveland, O.

"THE LITTLE **BIG ENGINE"**



Increase Your Production Reduce Your Operating Cost

The "Little Big Engine" will enable you to reduce your fuel bills. It will give you greater power on less fuel, regardless of whether producer gas, natural or artificial gas or gasoline is used, and will show you the way to increase your production and profits.

Efficiency and economy of operation have been two of the features that have made the "Little Big Engine" a success wherever it has been used.

Every "Little Big Engine" is installed and thoroughly tested by our engineers before it is turned over to the purchaser. A *power and fuel consumption guarantee* is given with the engine and a stipulation of the guarantee is given in the contract,

*Write us today for further information and ask us
about the guarantee*

The Elyria Gas Power Co.
Elyria, Ohio

Engraved Dies

**Steel Stamps and Dies for Marking Tools,
Novelties, Cans, Sheet Metal Ware, etc.**

We are general engravers and makers of high grade steel stamps, especially for marking and embossing metal. We do first-class work only, and guarantee the quality and accuracy of every piece we send out. We make a specialty of engraving dies for the trade. Let us figure on your engraving.

A trial will show what we can do for you

The Weidenmiller Die Shop

2049-51 Pensacola Ave., CHICAGO

Phone, Lakeview 5426

Leiman Bros. Positive High Pressure Blowers and Vacuum Pumps



Used wherever a blast of air is required; for furnaces, forges, sand blasts, blow pipes; all gas & oil appliances; gas producers.

For Vacuum Cleaning Outfits

These are the only machines that take up their own wear; small piston gives big air space; no springs or delicate parts; centrifugal force holds wings against cylinder; noiseless; slow speeds.

**8 SIZES \$17 UP
For All Purposes**

*Send for catalog No. 26 for Blowers,
No. 27 for Vacuum Pumps*

LEIMAN BROS., 62 R John St., New York



Another Quick Change Miller Job

The Farwell Quick Change Miller, being designed for profiling and equipped with our high grade indexed chuck, is well suited for making a special reamer like this.

*Our Catalog No. 6811 shows a set of other work
on the same machine.*

THE ADAMS COMPANY, 704 Second Street,
Dubuque, Iowa, U. S. A.

Dust From Emery Wheels and Polishers

And All Dust of a Metallic or Flinty Character Removed Without Abrasion of Fan Parts by
The Morse "Rarefied" Dust Collector

Its two principal features, briefly stated, are as follows:

1st. The fan *draws* the air, instead of forcing it, and the dust is removed from the air before the current reaches the fan, which prevents abrasion of fan parts.

2nd. It is arranged so there is no undue wear on the collector parts, which is quite different from the grinding of the dust-laden air against the walls of the collector when it is *forced* in by the fan.

The Morse "Rarefied" has no moving parts, its suction never varies, and it requires the least cleaning, the least repairs, and the least attention of any kind.

*Write for description
and records*

**The Knickerbocker Co.,
Jackson, Mich.**



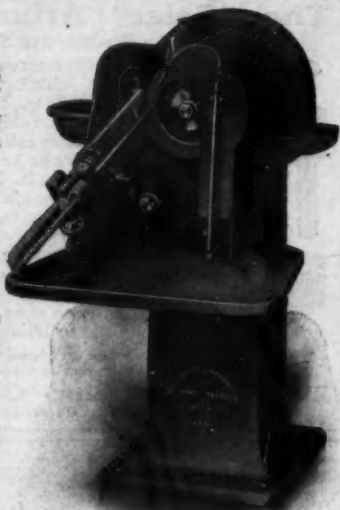
Two Machines

Which Every
Shop Needs
For Only

**One
Cost**

One Floor Space
One Power Bill
One Price

**Wet Tool
and
Drill
Grinder**



You can now get both a drill grinder and a water tool grinder in one. Two men can use the machine at the same time without either interfering with the other. Drill grinder or water tool grinder can be furnished separately where the other is already installed. We also have a line of surface grinders, cutter and reamer grinders, and the NEW YANKEE drill grinder in other combinations or plain, in endless variety to suit every condition.

Have you gotten your free copy of the "Brief Treatise on Lathe Center Grinding" and description of the new WILMARTH & MORMAN Center Grinder? If not, get it quick. You will miss it if you don't.

New complete catalog now on the press.

Send in your name for free copy

Wilmarth & Morman Co.
575 Canal St., Grand Rapids, Mich.

The "Geier" Arbor Press Is Built to Stand the Strain



It saves many a mean job of pounding arbors, saves springing, battering, splitting and chipping, and does it all so easily that one wonders how he ever got along without it. Equally efficient for broaching, punching, etc.; in fact, its strong, steady pressure can be utilized in scores of ways, limited only by the shopman's ingenuity. Can be used on bench or on any lathe from 12 to 18-inch swing.

*All "Geier" Tools have exceptional strength.
Description and prices on request.*

The P. A. Geier Company
5112 St. Clair Ave., Cleveland, Ohio

Reliance Adjustable Speed Motors



**The Ideal Drive
for your Machine Tools**

These motors give you all the advantages to be obtained with other motors plus really accurate speed adjustment over ranges as great as 1 to 16. The changes in speed are smooth and gradual—no steps—no jumps. You get the

right speed with ample power for every operation on all kinds of work.

Reliance Adjustable Speed Motors can be installed on the ordinary two wire direct current circuit. No electrical controller—no complicated wiring necessary.

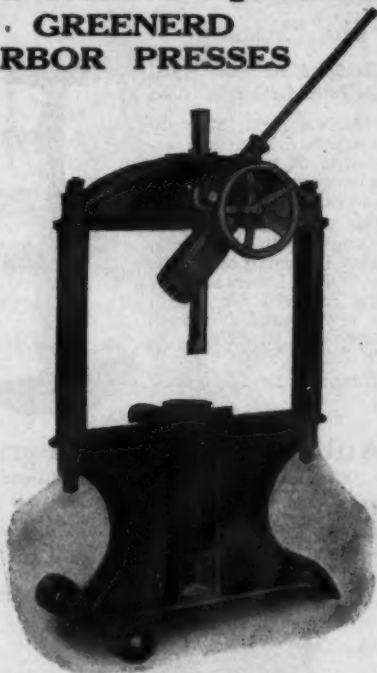
Write for our Folder 10L. It tells all about Reliance Motors and explains why they will make your machines do more work.

We can also furnish Reliance Constant Speed Motors for either A. C. or D. C. circuits.

Reliance Electric & Engineering Company
709 Caxton Bldg., Cleveland, Ohio

Extra Capacity

· GREENERD ARBOR PRESSES



Extra Capacity No. 15.

36 inches between Uprights. 27 inches over Plate.

Seven to eight tons capacity

(Same as the Number Five)

Price \$100. Sold by Machinery Dealers Everywhere

Edwin E. Bartlett, Boston, U. S. A.

An Accurate Sensitive Drill

The "Stanley"

**Ample Speed for Small Holes
Ample Power for 1-2 in. Holes**

This is a rigid, strongly constructed drill press, guaranteed to be true and accurate between the spindle and the working plate.

The upper table tilts to any angle up to 90 degrees, or may be swung out of the way. The lower table is easily removed for use of cup center and V-shaped center piece, which go with each drill.

The pulleys are flanged.

Circular and Prices?



Automatic Gear Cleaner

Cleans 10 to 15 Teeth Per Minute



For Spur Gears 2 to 30 inches diameter, up to 4 inch face. The gear to be cleaned is mounted on a vertical arbor, in a slide having a horizontal reciprocating motion on top of bed. All adjustments are easily and quickly made. Not an experiment, but a machine that has been in practical use for years.

Detailed description mailed on request

T. Crowther & Co.

170 Oliver Street, - Boston, Mass.

Accurate Machine Tools



Davis 20-Inch Drill

Furnished with Back Gear, Power Feed, Automatic Stop and Quick Return.

A first-class high-grade tool at a reasonable price.

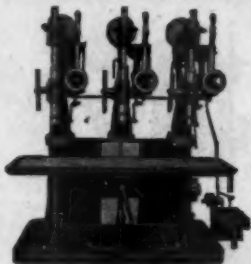
Orders can be sent to us direct or through leading machinery dealers in all parts of the world.

For further particulars address

The W. P. Davis Machine Co.

Rochester, New York, U. S. A.

Rockford Gang's

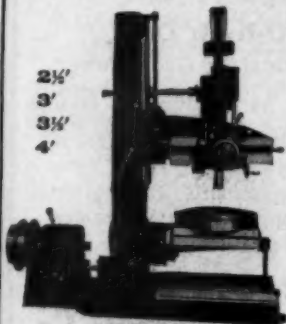


They not only drill, but they bore, ream, tap and face without removing work from jig.

Write for descriptive matter

Rockford Drilling Machine Company
Rockford, Ill., U. S. A.

The One Lever Control



of all spindle motions is a big convenience, but it's only one of many advantages that has made the

Gang Radial

the first choice of so many practical manufacturers. You, too, will like its simplicity, rigidity, its many conveniences—all features that make for big production. We invite the strictest comparisons.

Our friction type head, style "G," is also worth investigating. Write us.

The Wm. E. Gang Company
Cincinnati, Ohio



For Drilling With High Speed Steel

This new 24-inch swing High Duty Drill, with a capacity for drills from $\frac{3}{8}$ in. to $1\frac{3}{4}$ in., drives high speed steel drills to their limit in solid steel. Its strong, rigid construction is clearly shown in cut. Spur gears are used entirely, except 1 pair of 2 to 1 bevel gears, and everything is driven in a straight line; with the result that practically *all* the power is transmitted directly to the drill point. This machine is reasonable in cost and it easily excels all other types in efficiency. Details?

The Foote-Burt Company,
Cleveland, Ohio.

A Tool to Investigate Either a Drill or Tapper

When used as a drill, all tapping parts are idle. As a tapping machine, it reverses automatically *at both ends* of the stroke. The change for either drilling or tapping is made instantly.

No. 51 weighs 550 lbs., drills $\frac{3}{4}$ in., taps $\frac{3}{8}$ in.

No. 11 weighs 275 lbs., drills $\frac{1}{2}$ in., taps $\frac{3}{8}$ in.

Style A is adapted to style A. and style B. Barr multiple drills.

Style E is adapted to style E. and Style F. Barr multiple drills.

ANY COMBINATION that you require on our Multiple Drills arranged with our power feed and quick return to produce work economically—the latest and best methods of handling jig or fixture drilling or tapping.

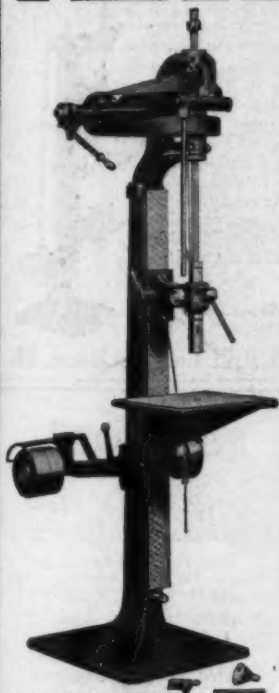
We
have
a cir-
cular
for
you



What's your address? Ours is

H. G. Barr Drilling Machine Co.
12 Hermon St., Worcester, Mass.

15" Drilling and Tapping Machine



(PAT. AUG. 3rd, 1900.)

The only Tool
of its
Kind Built.

Is entirely sensi-
tive, and gives *six*
spindle speeds for
drilling or tapping
without the use of
any gears.

Capacity--

Drilling $\frac{3}{4}$ -in.

Tapping $\frac{1}{2}$ -in.

Send for descriptive circular giving complete specifications

The Kern Machine Tool Co.

4657-59 Spring Grove Ave., Cincinnati, U. S. A.

Drill Press of Latest Design

This Sensitive Drill Press is exceptionally rigid in construction, with every detail carefully worked out. The spindle is balanced by plunger that fits in mill slot of sleeve, back of which is a coil spring and screw, giving a very sensitive adjustment.

It has both a round and square table; the latter tilts to any angle, and has an adjustable gauge for holding work. The round table can be removed, and is adjustable vertically. Belt guides furnished throughout.



*Write for complete details and
attractive price*

Rockford Lathe & Drill Co., Rockford, Ill.



HIGH DUTY
ROCKFORD
PUNCH PRESS

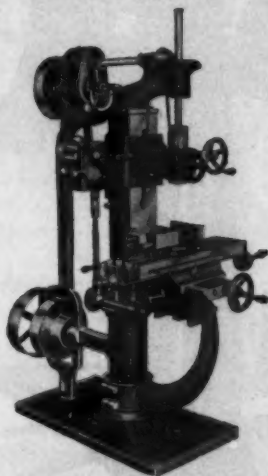
Have no complicated or impractical features. They are plain, sturdy presses of most recent design, with liberal bearings and correct distribution of metal.

Write for full details

Rockford Iron Works
Rockford, Illinois

Reduces Tool Room Expense

Its Big Saving In This Department Makes the
No. 2 Knight Milling and Drilling Machine
Such a Strong Favorite



DIE making and experimental work is the highest priced labor employed in your shop. Our No. 2 enables you to economize on this important item. It will mill, bore and drill at almost any angle with only one setting of the work.

In many shops it takes the place of two or more machines. That alone is a big economy. But there are many more, as you will find on investigation. We shall be glad to mail our folder showing our machine at work on many difficult operations.

W. B. Knight Machinery Company
St. Louis, Mo.

Our No. 1 is a lighter machine, but equally convenient.

FOX



MULTIPLE
SPINDLE
DRILLS

No. 3 Multiple Drill—Layout 12x18 in. Drives 12 Drills 3-4 in. in diam.
Write for particulars to

FOX Machine Co.

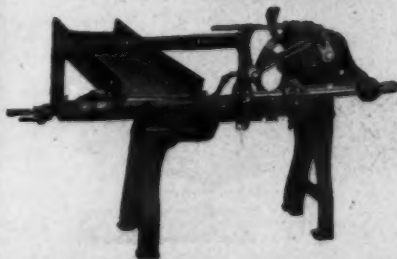
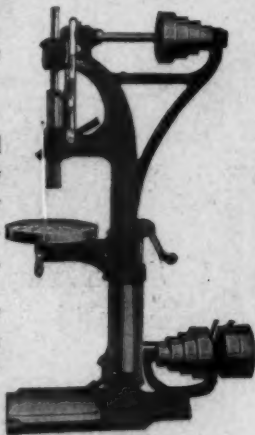
13 N. Front St., GRAND RAPIDS, MICH.

The Best Value In Drill Presses

**Are our
Modern 20"
and 21"**

They do rapid and accurate work at a very low cost, and cost very little to install. Our deliveries are from stock.

For cutting your Bars or Shapes get a Royal Power Saw—Simplest and best.



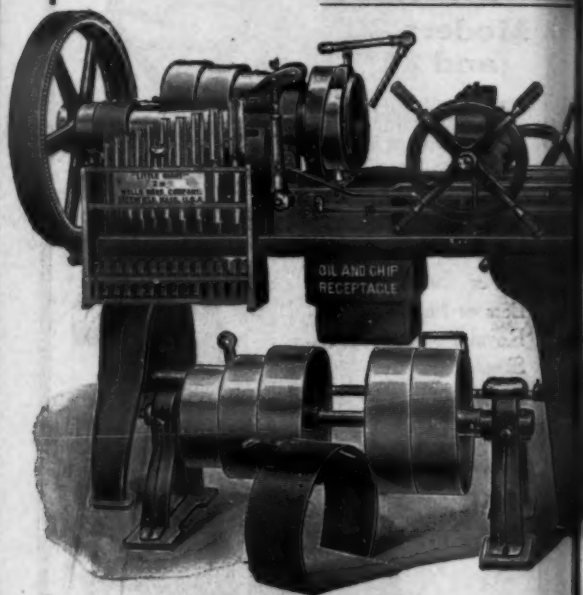
Write
today
for
Booklet
and
Circulars

FRONTIER IRON WORKS

Letchworth and Grant Sts., Buffalo, N. Y.

LITTLE GIANT

Results per Hour



Specify **Little Giant** Tools

For All Your Thread Cutting Work

lt, Nu
ines A
e Mac

T
bolts, a
can ru
maxim
time t

D
there?

T
with t
vise ca
enable
accura
out of
strong

S
chine

B
No. 2
whole
—"the

We

NEW

It, Nut and Pipe Threading Machines Are the Very Best Values in the Machine Tool Market Today for Dollar Invested.

This No. 36 machine cuts from $\frac{1}{2}$ in. to 2 in. bolts, and from $\frac{1}{4}$ in. to 2 in. pipe—and anybody can run it. An unskilled man can drive it to its maximum production capacity and at the same time turn out first-class work.

Don't you see practical production economy there?

The die head opens and closes *automatically* with the forward and backward movement of the vise carriage. This saves the operator's time and enables him to turn out threaded work that is accurate and uniform. There is nothing to get out of order; the construction is as simple as it is strong.

Specifications and price considered, this machine is a mighty sound and profitable *investment*.

But it's only one of those shown in Catalog No. 28-H.—Send for this book and look over the whole line of LITTLE GIANT machines —“*their use becomes a habit.*”

Wells Brothers Company

Greenfield, Mass., U. S. A.

NEW YORK

CHICAGO

LONDON



JUNK

Men do not get the caps
Of Tucker's Positive Lock
Compression Grease Cups

They Won't Jar Off

For Automobiles and all
kinds of machinery having ex-
cessive vibration. Sample sent
by mail on receipt of cash,
check or money order.

Made in three sizes

		Price
No. 000	$\frac{3}{8}$ in. $\frac{1}{4}$ in. pipe	\$0.40
No. 00	$\frac{1}{2}$ in. $\frac{3}{8}$ in. pipe	0.50
No. 0	$\frac{3}{4}$ in. $\frac{1}{2}$ in. pipe	0.60

PATENTED JANUARY 11, 1910

Tucker's Oil Hole Covers



Style C, Self Closing



Self Closing



Style A



Send for Catalogue of full line for all kinds
of machinery having oil holes

W. C. & F. C. Tucker, Hartford, Conn.

Special Wood Working Tools

For Pattern Shops

Machines selected for their precision, and adjustability. Built like machine tools, and designed primarily for pattern shop service.



"West Side" Band Saw

Steel wheels, which can neither break, warp, twist or spring; under cut hubs; self-oiling bearings; brass-bushed loose pulley; tilting table; all adjustments made by operator without leaving his position. A band saw widely known for its superiority of design and construction.

Tannewitz Universal Double Saw Arbor

The last word in saw tables for accuracy and convenience. Gauges and adjustments for every possible requirement. A notable improvement upon a type of saw table conceded to be indispensable in every pattern shop.



Porter 20-Inch Jointer

The highest grade jointer or hand planer in market. Patented guard and safety cylinder; specially grooved tables.

We outfit pattern shops complete, guaranteeing the accuracy and efficiency of every tool. Whether you want a full equipment or a single machine, you will find our service helpful.

We shall be pleased to have you consult us

Chicago Machinery Exchange

Manufacturers' Exclusive Representatives

159-161 North Canal Street, Chicago

Can furnish used machines, if desired, carefully rebuilt in our own shops and fully guaranteed.

A 12 Inch Saw, \$100.

Immediate Delivery

Screw Feed and Ball Bearing Thrust

**Cuts 3x5 or
1-2x9 inch.**

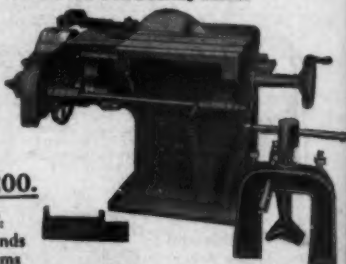
**Power Friction
Feed.**

**Automatic
Knockout.**

**Large Clamp-
ing Table.**

20 in., \$200.

CAPACITY:
5 $\frac{3}{4}$ Inch Rounds
12 Inch I Beams



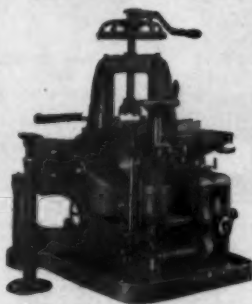
Write for particulars

Burke Machine Co., Conneaut, Ohio

Our New 1911 Folder Free

It describes the newest,
most improved features of
cold metal saw design as
embodied in

The Lea-Simplex



Write today and ask for a copy of "Vital Points"

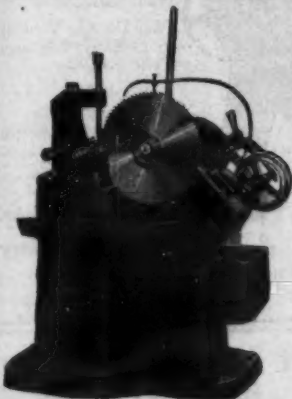
Lea Equipment Company

Cor. West and Cedar Sts., New York City

COCHRANE-BLY

Cold Saws and Sharpeners

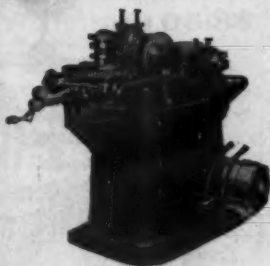
Illustrations show a desirable equipment for general shop use



No. 2-B is 4½-inch capacity round stock and has vise equipment for all shapes. Rigid construction, three changes of feed with powerful drive mechanism, affording favorable conditions for the saw.

The No. 10 Automatic Sharpener has capacity for blades 10 in. to 15 in. diameter, and grinds and bevels perfectly in one operation the special type of blade used on our machines.

A sharpening machine is not a necessity, but a convenience and an economy.

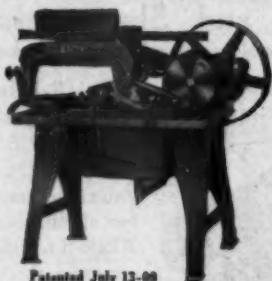


Five sizes metal saws. Two sizes sharpeners.

Cochrane-Bly Company

Rochester, New York, U. S. A.

Racine - High - Speed - Saws



**Cut Your
Cutting Cost**

**Will Do The Work of
6 Ordinary Machines**

**Saves Time
Saves Blades
Saves Material**

30 days free trial.

Patented July 13-00

Ask for Racine Blades.

Racine Tool & Machine Company

Racine Junction, Wis.

Eastern Representative: Simplex Tool & Supply Co., Boston, Mass.

Best Yet

In 4 Sizes

\$8.50 up



Power Hack Saw

Booklet Free

**A Short History of Saws
and descriptive Circulars**

L. H. OLMSTED, Hasbrouck Heights, N. J.

Are You Satisfied

**With Your Profits in the Manufacture
and Sale of Machinery?**

HAVE YOU the quality up to the desired standard, and the cost of manufacture down to rock bottom?

HAVE YOU the time to put into your selling organization to secure the largest possible sales?

HAVE YOU the manufacturing capacity to turn out machines as fast as you can sell them?

If you have all those things, then you don't need us. But, if not,

We Can Build Your Machines Under a Liberal Contract

that will insure you a high-grade, dependable product, a cost as low as you can get in a shop of your own, and entire freedom from the annoyance and possible loss involved in a manufacturing plant. Such an arrangement will make money for you, because it will enable you to give undivided attention to selling. Our facilities, our organization and our long experience will put the manufacturing end of your proposition on a par with the best, anywhere.

*Tell us what you have to make
We'll show you what we can do*

C. H. Cowdrey Mche. Works
Fitchburg, Mass.

Builders of Special Machinery for Uncle Sam.

A Tool Holder Indeed



The T C Are Proven the Best Tool Holders

No monkeying with a set screw to hold the Cutter. Simple but effective.

The Tool Post screw holds cutter and Tool. Then it's reversible. Two tools in one. Saves Mechanics time, they like it, no bothering cutter set screw. Long cutters save waste of expensive Tool Steel. Chatter troubles ended.

Wm. Shelton Nicholls
251 Broadway, New York

Keyways Milled



on the Drill Press

Simple as drilling a hole. Accurate duplicate work in less time than you can start it by other methods.

Oil grooves milled entirely within the journal, preventing oil from escaping from either end.

National Keyseat and Oil Groove Millers for all jobs of internal Oil Grooving and Keyseating.

Write for new catalogue

National Machine Tool Co.
128 Longworth St., Cincinnati, Ohio.



A Chuck That Lasts

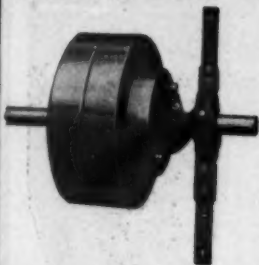
The grip and strength and economy of the Morrow Drill Chuck put it beyond all competition. Morrow Drill Chucks keep strengthening their reputation for outlasting other drill chucks. Great numbers of users have formed the "MORROW" habit, and it is a money making habit, because the Morrow Chuck is **A TIME AND MONEY SAVER**. **Positively** a hand operated chuck, no key, no wrench, no spanner. Not "just as good," but just a little **BETTER** than any other drill chuck made. The **ONLY** drill chuck that will hold straight shank drills without slipping. Others have been convinced of the superior merits of the "MORROW." Let us convince you.

Made in Five Sizes

Send for catalogue

Morrow Manufacturing Co.
Elmira, N. Y.

EDGEMONT FRICTION CLUTCHES



Extended Sleeves Cut-off Couplings, are made to stand the rough usage friction clutches are subject to.

That they have been adopted by 30 of the leading machinery manufacturers, should convince you that they are the simplest and most powerful clutches on the market.

Cut shows our extended sleeve type, which will drive wood or steel pulleys, gears, sprockets, etc.

If you want to avoid clutch troubles, tell us your wants. We make them for all purposes.

Our catalog D for your card

The Edgemont Machine Co., Ft. of Mound Street,
DAYTON, O.

12,000 to 15,000

pairs of Egg Tongs per day, is the output of a

Grant Noiseless Rotary Riveter.

Thousands of other articles can be riveted equally fast.

Send samples of your work and let's show you what these machines can do for you.

Catalogue on request

**The Grant
Mfg. & Mche. Co.**
Bridgeport, Conn.



No. 80 Pedestal Mche.



Egg Tongs

Fast Riveting

Requires a High Speed Tool



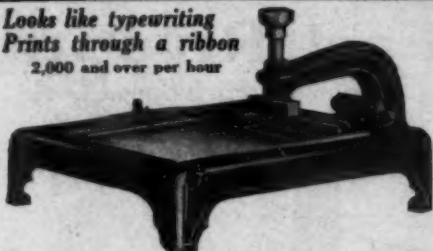
Our Ball Bearing Tool used in the
National Riveting Machine
reduces friction to a minimum and is especially adapted to continuous service.

**Minutes and Seconds Count
in a Day's Output**
because it only requires one second to put
a polished head on a rivet with the
National Riveter.

Riveting Reduced to a Manufacturing Basis

The Cincinnati Pulley Machinery Co.
Cincinnati, Ohio

**Looks like typewriting
Prints through a ribbon**
2,000 and over per hour



A Complete Addressing Outfit

with 500 addresses, \$32.25; with 200 addresses, only \$38.75

The addresses are set in metal type, and you can make your own changes. They can be arranged as desired, indexed, hence are easy to locate. Can either repeat or skip any name, and make carbons. Also foot power and electric machines for large lists.

Description and sample addresses on request.

Cleveland Addressing Machine Co.

1232-1234 E. Third St., Cleveland, Ohio.

Cut Down Your Oil Bills?

**Sure! That's the Only Reason We Have For
Making the Curtis Oil Extractor**



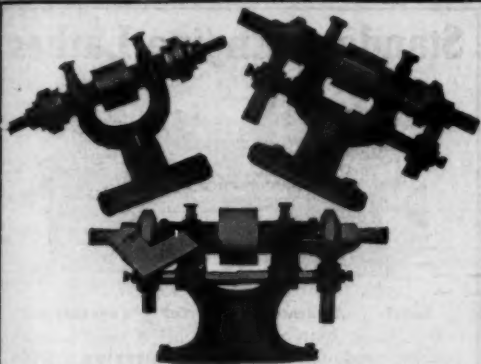
Let this ball bearing machine get at your chips, shavings and waste, and you've begun a good reduction on one of your big items of expense. The pan is made of seamless sheet steel, and the whole is of splendid construction, insuring many years of hard service. A steam attachment for cleaning waste can also be furnished.

No. 400—Capacity: 2 Bushels

*Our three sizes give you a choice. Shall we
send detailed descriptions?*

Curtis Oil Extractor Company

95 Foster St., Worcester, Mass.



Partridge Emery Grinders

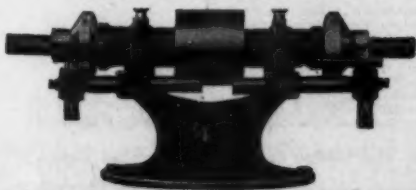
Here are four well-made Bench Grinders, adapted to light, medium and heavy work. Also furnished mounted on column. In addition, I make a high-grade heavy Floor Grinder of the cabinet type, thus being able to meet all demands for this class of tools. They are all well built, of the right materials, and have features of excellence that will interest you.

Tell me your needs in this line, and I will gladly mail full description and quote interesting price

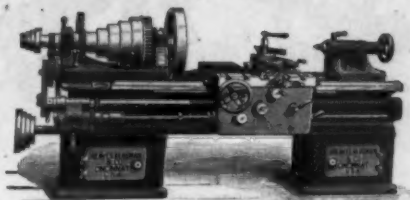
E. O. PARTRIDGE

2047-9 Lake Street, - - CHICAGO

Also Foot Presses and Tapping Machines



Standard Engine Lathes



CLASS 1000, 1100, 1200

Simple Accurate Powerful Convenient

Furnished with either standard cone or with 3-step cone double-back-geared, **carrying a wide belt**, with 18 spindle speeds and wide feed range.

GREAVES, KLUSMAN & CO.
Cincinnati, Ohio, U. S. A.

THE LODGE & SHIPLEY MACHINE TOOL CO.

**Second-Hand Machine Tools
For Sale at Bargain Prices.**

LATHES.

- One 24 in. x 8 ft., 5 step cone head, quick change gear, Lodge & Shipley Engine Lathe.
- Two 34 in. x 60 in. Fitchburg L-Swing Lathes.
- One 2x24 in. Jones & Lamson Flat Turret Lathe.
- One No. 3 Lodge & Shipley Rapid Reduction lathe, with 8 ft. bed.

PLANERS.

- One 36x36 in. x 10 ft., 3 head, Sellers.
- One 36x36 in. x 26 ft., 4 head, Sellers.
- One 42x42 in. x 20 ft., single head, Putnam.

MISCELLANEOUS.

- One Whiton Revolving Centering Machine.
- One Franklin Cold Saw, 34 in. capacity.
- One Schuster 4 in. Riveter, Model "A."
- One Mumford 12x40 in. power ramming Molding Machine.

The Lodge & Shipley Machine Tool Co.
CINCINNATI, OHIO, U. S. A.

Lumber.

For Machinery People

By specializing to supply
the lumber requirements of
machinery manufacturers,
I can furnish

Crating Lumber Blocking and Boxes

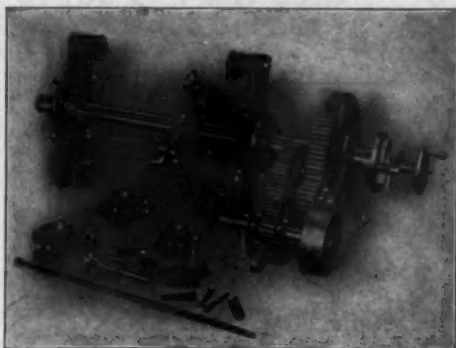
in any quantity and dimension,
to better advantage
than your local dealer, at
lowest prices.

*Let me figure on your present requirements
as a trial order*

EZRA RHODES
Wholesale Lumber, South Bend, Ind.

Portable Boring Bar

For Quick and Accurate Work on Cylinders



This reliable tool will enable you to make many substantial savings in both time and money when the inevitable repairs come your way. It bores all kinds of engines, steam hammers, pumps, air compressors, Corliss valves, etc., **in place**. Cylinders may be rebored in place in less time than they could be removed from fixed position, leaving all steam connections and bolts intact. Works in very cramped places and in all positions. Made in several sizes, powerfully geared, and can be driven by power or hand.

*Write for our comprehensive catalog
of Portable Tools; they are standard*

H. B. Underwood & Company
1022 Buttonwood St., Philadelphia, Pa.

L
und
with
the
Pric
part
ship

Inte
List
Gear
Sta
by
Sul
Ha
Ha
Ha
Ser
Spr
Wi
Lau
Eve

Th
Bo
Dr
Dr
Dr
Dr
En
En

100
150
250
300
350
Ser

O.

16
17
22

10
23

24

No

Bo
Co
H
K

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of 40 cents a line, across the page, each issue, with a minimum charge of \$4.00. Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

FOR SALE BY

International Watch Co., Ocean Ave. & Ludlow St., Jersey City, N. J.

List on application: E. Bunzl, Treas., 65 Duane St., N. Y. City.

Gear cutters, wheel cutters, pinion cutters, all Sloan & Chase.

Staff lathes, case lathes, bench lathes, spring lathes, watchmakers' lathes, buffing lathes.

Stillwell No. 6 blower.

Hartford 600 screw machines.

Hartford automatic Stehli screw machines.

Hartford automatic stud and pin machines.

Sensitive bench drill presses.

Spring winding machine.

Wigwaga.

Large and small Sloan sub presses, foot presses, etc.

Everything as good as new. All bought first handed from manufacturers.

FOR SALE BY

The Chicago House Wrecking Co., W. 35th and Iron Sts., Chicago.

NEW AND USED MACHINERY.

Boring mill, 8 ft. Niles, single head.

Drill press, radial, 4 1/2 ft. arm.

Drill press, radial, 4 1/2 ft. arm, Gang pl.

Drill press, vertical, 30 in. Prentiss.

Drill press, vertical, 36 in. Prentiss.

Eng., auto. center crank, 16x18 Atlas.

Engine, auto., 28x36 in. Buckeye.

Engine, a. v., 18x24 Atlas, left hand.

Gasoline engine, 8 h. p. Bates &

Edmunds, single cyl., vert. type.

Hoisting engine, 12x18 Lidgerwood, double drum.

Jaw crusher, 15x9, F. & C.

Resaw, band, 44 in. McDonough.

STEEL TANKS.

1000 gallon capacity (12).

1500 gallon capacity (22).

2500 gallon capacity (36).

3000 gallon capacity (7).

3000 gallon capacity (13).

5000 gallon capacity (37).

3800 gallon capacity (4).

4500 gallon capacity (42).

6000 gallon capacity (156).

Send for 1000 p. catalog No. 888. Free on request. 40 'phones, all Yards 1900.

FOR SALE BY

O. L. Packard Machinery Co., Chicago, Ill., and Milwaukee, Wis.

LATHES.

18x6 Lodge & Shipley.

17x11 New Haven.

22-36x22, plain rest.

36-50x18 Fifeild, compound rest.

72x22 comp. rest, with raising blocks to increase swing to 120 in.

DRILLS.

10 in. Stecker.

23 in. Barnes, power feed.

5 ft. Bickford universal radial.

5 ft. Cincinnati full universal radial.

PLANERS.

24x24x5, 2 heads on cross rail.

MILLERS.

No. 5 Garvin, plain.

MISCELLANEOUS.

Bolt cutter, double, 1 in.

Gear cutter, 36 in. Brainard.

Hammer, steam, 250 lbs. Bell.

Keyseater, Morton.

Screw mche., 1 in. P. & W., automatic.

Screw mche., 1 1/2 in. P. & W., p. f.

Shear, bevel, Thompson, for boiler plate.

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, 111 Broadway, New York.
Located at Chicago, Boston and New York.

LATHES.

B. & D. single axle lathe.
No. 2 Bement double axle lathe.
No. 3 Putnam extra heavy axle lathe.
10x5 Champion, standard.
12x6 P. & W., r. and f. rest, taper.
14x5 American, square arbor, \$60.
14x6 F. B. Miles, comp. rest.
16x6 speed lathe.
17x9 Greaves Klusman, comp. rest.
18x6 Blaisdell, rise and fall rest.
19x6 D. W. Pond, turret pool post.
20x10 LeBlond, old style.
21x6 Bridgeport, turret boring.
21x8 Star, turret carriage.
22x10 F. B. Miles, comp. rest.
22x12 Niles, back geared.
22x16 Fitchburg.
7x32 in. P. & W., bench.
21 and 48 in. Harrington, gap, boring and chuck.
36 in. Niles car wheel borer.
42 in. Niles steel car wheel lathe.
42 in. x22 ft. Niles, tr. gd.

TURRET MACHINERY.

1 in. No. 0 Hartford, automatic. \$225
1 in. No. 60 Hartford, Pratt & Whitney, automatic. 275
1 in. No. 0 Pratt & W., wire feed.
1x1 in. National-Acme, 4 spindle, automatic. 150
1 in. No. 1 P. & W., wire feed.
1 in. No. 1 Garvin, wire feed. 125
1 in. No. 1 Spencer, turret, auto. 150
1x4 in. P. & W., tur., new mod.
2 15-16 in. No. 3 Niles, screw machine.
20 in. x7 ft. 6 in. F. E. Reed, chucking lathe.
24 in. Conradson, semi-automatic.
28 in. size J, Gisholt.
28 in. x12 ft. Milwaukee, turret lathe.
21-32x1 in. No. 2 Brown & S., automatic. 150

PLANERS.

17x17 in. x4 ft. Whitcomb.
26x23 in. x16 ft. Ferris & Niles, 2 hds.
36x30 in. x24 ft. Sellers, 2 heads.
32x22 in. x14 ft. Niles.
48x48 in. x 16 ft. Belmar Eames, 4 hds.

SHAPERS.

15 in. Hendey, friction.
15 in. Cincinnati, dbl. hd., traverse.

DRILLS.

13 in. No. 1 sensitive friction, 110 volt, d. c. motor.
20 in. Gould & E., sliding head.
26 in. Gould & E., sliding head.
48 in. Niles, sliding head.
Prentiss port. univ. rad., cap. 2 in.
4 ft. 6 in. Barr, plain radial. \$300
8 ft. 6 in. Niles, semi-universal.
6 ft. 10 in. Niles No. 2, semi-univ.
7 ft. 6 in. Niles No. 5, full univ.
10 in. 3 spindle Slate, sensitive.
12 in. 2 spindle Foote-Burt, sensitive.
14 in. 3 spindle Garvin, gang. \$ 60
14 in. 4 spindle D. P. N. 75
17 in. 4 spindle J. & L., gang. 75
14 in. 6 spindle No. 3 Garvin, gang.
6 spindle special Langeller.
No. 10, 10 spindle Pratt & Whitney cap. 1 15-16 in., 220 v., d. c. motor.

BORING MILLS.

36 in. No. 2 Brown & S., vert. turret.
Nicholson & Waterman boring machine, 3 in. spindle.
Kelly horizontal, 2 in. spindle.
Bement & Son horiz., 2 1/2 in. spindle.
Stearns 96 in. special cylinder borer.
16-16 ft. Niles standard.

GRINDERS.

14x3 in. Gould & E., water tool. \$ 25
18x2 in. Pedrick, double wet tool. 20
24x3 in. Pedrick, double wet tool. 75
20x1 1/2 in. Ransom, water tool.
3 in. Sellers drill grinder.
Diamond polishing stand. \$ 15
No. 0 Northampton polishing jack.

MILLING MACHINES.

No. 2 Brown & Sharpe, universal, 20x10x16 in.
No. 2 Garvin, plain, 31 1/2x3x16 in.
No. 4 Brown & Sharpe, universal, 46x7x2 in.
No. 4 Becker-Brainard, plain, 24x7x16 in.
Garvin single spindle profiler, table 21x24 in. \$300
1 in. Garvin hor. screw slotter. 40

STEAM ENGINES (New.)

10x10 28 h. p. horizontal single cylinder c. c. automatic.
12x12 45 h. p. horizontal single cylinder c. c. automatic (2).
13x12 45 h. p. horizontal single cylinder c. c. throttling (2).

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company—Continued.

MISCELLANEOUS.

Arbor press, power, 3 in. screw.	\$ 50	Hammer, power, 350 lb. Lingle.	
Bicycle tube hand rolls	30	Iron forge on legs, 28x13x8 in.	\$25
Brazing furnace, gasoline, 24x16 in.		Planer vise, 16x34 in.	25
Cut-off machine, 24 in. Betts.	75	Planer vise, 10x2 in., swivel base	30
Cut-off machine, 34 in. Hurlbut & Rogers.	50	Punch and shear, combination, power, 4 in. capacity.	25
Forging machine, 2 in. Blakesly.		Spiral spring winding mche., Shuster.	
Hack saw, No. 2 Robertson.		Tapping machine, horizontal, No. 1 Garvin.	
Hammer, steam, double frame, 5,000 lb. Bement.		Vulcanizer, rubber, Hartford, small.	

FOR SALE BY

The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W., Cleveland, Ohio
Branches: Detroit, Cincinnati, Pittsburgh.

We offer for sale the following refitted machine tools:

BORING MILLS.

20 in. Bullard, plain table (2). | 42 in. Bullard, rapid production.

BROACHING MACHINES.

No. 1 vertical Standard. | No. 3 Lapointe.

DRILL PRESSES—UPRIGHT.

20 in. Barnes.
 22 in. Barnes.
 26 in. Rockford, good as new.

RADIAL DRILLS.

4 ft. Box, half universal. | 5 ft. Pond, heavy.

GEAR CUTTERS.

24x9 in. x 4 p. Gould & Eberhardt.
 24x10 in. x 3 p. Gould & Eberhardt.

GRINDERS.

No. 1 Cincinnati, cutter, complete.
 No. 1 Landis, internal.
 No. 24 Landis, plain, swivel head.
 No. 2 Leland & Faulconer, wet tool.

LATHES—ENGINE.

12x5 Willard, compound rest.
 14x6 Hendey, plain rest, taper att.
 16x8 Greaves & Klusman, good as new
 20x8 Flather, 4 step cone, belt feed, compound rest.

MILLING MACHINES.

No. 3 Brown & Sharpe, vertical, new.
 No. 34 Garvin, plain.

PLANERS.

10 in. Busch, crank, swivel vise.
 24x24x6 Ohio, one head.
 24x24x6 Whitcomb, 1 head.

SHAPERS.

15 in. Smith & Mills, single geared crank.
 16 in. Steptoe, crank.
 16 in. Gould & Eberhardt, crank.
 20 in. Kelly, crank.

TURRET LATHES.

7x14 Potter & Johnson.
 16x5 Mueller, plain rest, turret on shear and chuck.
 22 in. Universal, chuck fitted.

MISCELLANEOUS.

Pneumatic gap riveter, 16x37 in. Chicago.
 Belt lacer, 17 in. Peerless.

SECOND-HAND MACHINERY

FOR SALE BY

Joseph T. Ryerson & Son, 16th and Rockwell Sts., Chicago

POWER PUNCHES.

Item.

- 287 Cleveland 90 in. multiple punch, 12 in. throat; capacity thirty 13-16 in. holes in $\frac{1}{2}$ in.; motor drive.
 294 Kling No. 2 horizontal punch, 12 in. throat; cap. 1 $\frac{1}{2}$ x1; belt drive.
 496 Royersford No. 2 double end punch and shear, 7 $\frac{1}{2}$ in. throat; punch $\frac{3}{4}$ x $\frac{1}{2}$ in.; shear 6x $\frac{1}{2}$ in.

POWER SHEARS.

- 222 Long & Allstatter 48 in. gate shear, 6 in. gap, cap. 3-16 in.; belt drive.
 291 Cleveland 10 ft. gate shear, 36 in. gap, capacity 3-16 in.; motor drive.
 59 H. Pels & Co. Johns beam shear; cap. 12 in. 35-lb. beams; belt drive.
 504 H. Pels & Co., Johns T 40 beam shears; capacity 15 in., 60-lb. beams.
 483 No. 2 Lennox rotary bevel shear, for $\frac{1}{2}$ in. plate; belt drive.
 292 Special stroke type bevel shears; capacity 1 in. plate.

HYDRAULIC MACHINERY.

- | | |
|---|---|
| 265 Bement-Miles 6 $\frac{1}{2}$ ft. riveter, 75 tons pressure. | 273 Bement-Miles 10 ton riveter crane. |
| 263 Morgan 10 $\frac{1}{2}$ ft. riveter, 100 tons. | 272 Morgan 10 ton riveter crane. |
| 267 Hori. punch, 12 in.; cap. 1x $\frac{1}{2}$ in. | 262 Worthington duplex steam pressure pump, 18 $\frac{1}{2}$ x2 $\frac{1}{2}$ x10 in. |
| 268 Morgan 48 in. punch, cap. 2x1 in. | |
| 269 Morgan 45 in. pch., cap. 2 $\frac{1}{2}$ x1 in. | |

PLANERS.

- | | |
|---|--|
| 158 Pond, 26x26x6, heavy pattern, 1 head; belt drive. | 166 Bement, 36x36x7, 2 hds.; belt d. |
| 162 Pond, 32x32x8, 2 heads. | 167 Sellers, 42x42x6 $\frac{1}{2}$, 2 hds.; belt d. |
| 215 Gray, 36x36x10, 2 heads; arranged for motor. | 169 Sellers, 42x42x8 $\frac{1}{2}$, 2 hds.; belt d. |
| 163 Sellers, 36x36x7, 1 head; belt d. | 137 Sellers, 48x48x8 $\frac{1}{2}$, 2 hds.; belt d. |
| | 265 Niles 20 ft. plate planer; old style. |

LATHES.

- | | |
|---|--|
| 393 Bradford, 18x8 in. p. r.; p. c. f., hollow spindle. | 234 Hendey, 18x10, q. c. gear, hol. sp.; com. rest; p. c. f. |
| 250 Flather, 16x6, hol. sp., p. c. f. | |

DRILLS.

- 193 Barr, 3 spindle, sensitive.
 198 Sigourney, 4 spindle, sensitive.
 476 Lodge & Davis, 30 in. sliding head; back geared; power feed.
 479 Bickford, 4 ft., plain radial cone drive, auxiliary table.

PNEUMATIC RIVETERS.

- 290 Allen type toggle; 48 in. reach; 9 in. gap; capacity $\frac{1}{2}$ in. rivets.
 493 Allen jaw riveter; 17 $\frac{1}{2}$ in. reach; 15 in. gap; capacity 1 in. rivets.
 496 Allen compression lever; 9 in. reach; 14 in. gap; capacity $\frac{1}{2}$ in. rivets.
 491 Hanna patented lever; 25 in. reach; 15 in. gap; capacity $\frac{1}{2}$ in. rivets.

MISCELLANEOUS.

- 291 No. 9 Garvin, table 7 $\frac{1}{2}$ x30 in., back geared.
 238 Bending and straightening machine, Cosgrove, capacity 15 in. beams.
 237 Bending rolls, plate, 8 ft. 2 in. Badger; top roll 6 in., bottom rolls 5 in.; drop housing; hand and belt power.
 712 Boring and drilling machine, 4x27x60 in., Beaman & Smith, horizontal.
 177 Bulldozer, No. 5 Ajax; double geared, outside connected, belt drive.
 376 Concrete mixer; capacity $\frac{1}{2}$ cu. yd.; complete with engine and boiler.
 540 Cornice brake, 8 ft. Geo. A. Ohl, capacity No. 18 gauge.
 513 Pipe cutter, No. 5 $\frac{1}{2}$ Merrill, capacity 2 in. pipe, belt drive.
 298 Profiling machine, No. 2, Pratt & Whitney.
 486 No. 1 Newton, 28 in. head, plain rotary planer, arranged for motor.
 460 Yankee twist drill grinder.

SECOND-HAND MACHINERY

FOR SALE BY

C. C. Wormer Mach'y Co., 94-96 W. Woodbridge St., Detroit, Mich.

SHAPERS.

- 10 in. traverse head.
- 12 in. Juengst, plain rest.
- 15 in. Perkins, friction.
- 16 in. "Chase."
- 16 in. Garvin, plain crank.
- 16 in. "Gould & E." bk. gr. crank.
- 22 in. "Walcott," gd. rack.
- 24 in. Hendy, friction gd. rack.
- 24 in. traverse head, gd. rack.
- 30 in. gear and rack.

ENGINE LATHES.

- 24 ft. 8 in. Seneca Falls.
- 11x4 ft. Barnes.
- 11x4 ft. Mann.
- 12x5 ft. Springfield.
- 12x7 ft. Shepherd.
- 12x12 ft. "New Haven."
- 13x5 ft. Davis.
- 13x6 ft. Pratt & Whitney.
- 14x6 ft. Flather.
- 14x6 ft. Hendy.
- 14x6 ft. Lodge & Davis.
- 15x6 ft. Nutter-Barnes.
- 15x6 ft. Flather.
- 16x6 ft. Blaisdell.
- 16x6 ft. Hamilton.
- 16x6 ft. Porter.
- 16x8 ft. Burnham.
- 16x8 ft. Flather.
- 16x10 ft. LeBlonde.
- 16x11 ft. "Reed."
- 17x8 ft. LeBlonde.
- 18x6 ft. Lodge & Davis.
- 18x7 ft. Perkins.
- 18x7 ft. New Haven.
- 18x8 ft. Lodge & Davis.
- 18x8 ft. Bradford.
- 18x8 ft. New Haven.
- 18x8 ft. Hendy.
- 18x9 ft. New Haven.
- 19x6 ft. Pond.
- 20x8 ft. Sherman.
- 22x8 ft. Fifield.
- 22x10 ft. Niles.
- 22x16 ft. Putnam.
- 24x12 ft. Sherman.
- 26x17 ft. Speedwell.
- 27x14 ft. S. P. & W.
- 28x12 ft. Fay & Scott.

SPECIAL LATHES.

- 7x21 in. "Starr" bench lathe.
- 32 in. Stevens pulley lathe.
- 48 in. double end pulley lathe.
- No. 6 Bliss spinning lathe.
- 60 in. "Stevens" pulley lathe.
- 13x4 ft. Prentice taper turning.
- 24 in. Davis forming and boring.
- 30 in. column facing lathe.

HAMMERS.

- 150 lb. Marchand & Morgan steam.
- 200 lb. Cox, strap helve.
- 75 lb. Dupont, belt driven.
- 176 lb. Blundell, 4 poppet drop.
- 40 lb. Bradley, helve.
- 1,000 lb. board lift.

PUNCHES AND SHEARS.

- 36 in. Niagara foot gap, 18 in. throat.
- 1 in. throat, hand power, p. & s.
- No. 6 Pond hand lever punch.
- 1 in. blacksmith, geared punch.
- 2 in. stroke, foot punch.
- 20 in. throat, double end, p. & s.
- 10 ft. 8 in. "Ohl," power squaring.
- Boiler plate bevel shear.
- 9 in. alligator shear.
- Metal shear, with rotary cutter.

MILLING MACHINES.

- No. 5-C Becker-B. vertical.
- No. 2 Davis-Egan, plain.
- No. 7 Becker-B., Lincoln type.
- Chicago hand miller.
- No. 2 Owen universal.
- No. 1 "LeBlonde" plain.
- No. 1 Pratt & W., hand.
- No. 2 Pratt & W.
- 16 in. "Ames," Lincoln type.
- No. 59 Bement & D., plain.
- No. 14 Brainard universal.
- Reed, back geared.
- No. 2 Cincinnati, plain.
- No. 1 Cincinnati, plain.
- No. 15 Garvin, plain.
- No. 2 Garvin, hand.
- No. 2 Carter-Hakes, Lincoln type.
- No. 4 Brainard, universal.
- No. 11 Garvin, plain.
- 2 spdl. Beman & S., motor driven.

MISCELLANEOUS.

- Air compressor, 4x4 Ingersoll.
- Air drill, No. 3 Little Giant.
- Air hammer, No. 9 Boyer.
- Boring mill, 48 in. Bement & D.
- Boring mill, 48 in. Harrington.
- Brake, cornice makers', 16 ft.
- Centering machine, Whiton.
- Cold saw, 6 in. Cochrane-Bly.
- Crank turning machine, 7 in.
- Cutting-off machine, No. 4 Hurlbut.
- Grinder, surface, Blake & Johnson.
- Grinder, style W. & A. Heald.
- Hack saws, miscellany lot.
- Oil separator.
- Riveter, rotary, Shuster.
- Stud machine, 2 spindle Garvin.
- Tapper, Brown & Sharpe, horiz.
- Tapper, No. 1 Errington.
- Tapper, No. 1 Garvin, horizontal.
- Tool holders, Wells & Son.
- Tumbling barrel, iron, Adams.
- Typewriter, No. 6 Williams.

Complete details and prices on application.

SECOND-HAND MACHINERY

FOR SALE BY

Western Machinery Co., 6th and Baymiller Sts., Cincinnati, Ohio.

LATHES.

- | | |
|---|--|
| 8x54 in. Sebastian, foot power. | 20 in. x14 ft. Steptoe, solid spin. \$100. |
| 14 in. x5 ft. Bradford, comp. rest. | 17 in. x10 ft. Gray, comp. r. & taper. |
| 14 in. x6 ft. Flather, plain rest. | 24 in. x12 ft. LeBlond, comp. rest. |
| 15 in. x6 ft. Hamilton, comp. rest. | 19 in. x8 ft. LeBlond, comp. rest. |
| 16 in. x6 ft. Porter, comp. rest. | 44 in. x16 ft. Kidd, comp. rest. |
| 18 in. x6 ft. Steptoe, solid spin. \$110. | 47 in. x20 ft. Niles Triple Geared, c. r. |
| 20 in. x6 ft. Gray, comp. rest, \$150. | |

BORING AND DRILLING MACHINERY.

- | | |
|--|--|
| 7 ft. Callahan vert. boring mill, 1 hd. | 20 in. Hamilton pl. drill. |
| 7 ft. Niles, vert. boring mill, 2 heads. | 28 in. Aurora vert. cyl. boring mcha., tapping attachment. |
| 24 in. Aurora, sliding hd., b. g. p. f., tapping attachment. | |

PLANERS AND SHAPERS.

- | | |
|--------------------------|-----------------------------------|
| 30x20 in. x5 ft. Putnam. | 26x26 in. x8 ft. Pratt & Whitney. |
| 24x24 in. x7 ft. Pond. | 26x26 in. x8 ft. G. A. Gray. |

MISCELLANEOUS.

- | | |
|---|---------------------------------------|
| Chain blks., 1& 2 ton. Lot chucks, etc. | Press, No. 53 Ferracuta. |
| Ice machines, 17 ton, (2). | Punch, power, 1x1 in., 16 in. throat. |
| Miller and div. head., univ. No 1 | Screw mach., No. 1 P. & W., wirefd. |
| Brown & Sharpe. | Shaper, crank, 14 in. Steptoe. |
| Milling att., Farwell, \$100. | Cash paid for machine tools. |

FOR SALE BY

Buffalo Tool & Supply Co., 15 W. Swan St., Buffalo, New York.

SCREW MACHINES.

- 1 in. Pratt & Whitney hand screw machines (2).
 Jones & Lamson, hand, cross feed head.
 2x24 in. Jones & Lamson, cone drive, hand feed head.
 1 each Nos. 52 and 53 and 2 No. 54 Acme multiple spindle automatics.
 14 in. Cleveland automatic, 3 hole turret.
 14 in. Cleveland automatic, 5 hole turret (2).
 4 in. Gridley multiple spindle automatic, brand new.
 14 in. Gridley multiple spindle automatic, brand new.

DRILLS.

- | | |
|---|--|
| 20 in. Hofer, 3 spdl., gang, 3 separate drilling mcha. on 1 base plate. | 42 Hamilton, radial. |
| 36 in. Quint, turret. | Bickford, radial, speed gear box, new. |

BORING MILLS.

- | | |
|-------------------------------------|--------------------------------------|
| 30 in. Bausch, turret, fine, \$375. | 50 in. Bullard, 2 hds., good, \$350. |
| 36 in. 1 head, good, \$225. | |

LATHES.

- 24 in. Gisholt turret lathes (2).
 18x8 LeBlond engine lathes, single back gear (2).
 22x8 Prentiss, 20 in. 4 jaw chuck, 24 h. s., comp. rest, practically good as new.

MILLING MACHINES.

- | | |
|------------------------------|------------------------------------|
| No. 3 Cincinnati, plain. | Becker-Brainard, Lincoln type (6). |
| No. 3 Cincinnati, universal. | |

PLANERS.

- | | |
|--|---|
| 26 in. Putnam. | 24x24x6 Rochester Machine Tool Co., good order in every way, \$200. |
| 26 in. N. Y. Steam Engine, iron, good. | 48x48x11 ft. 6 in. New Haven, 1 hd. on rail, about 28,000 lbs., good order, immediate del. \$750. |
| 28 in. N. Y. Steam Engine, iron, good. | |
| 24x24x6 Lodge & Davis, 1 hd. on cross rail, fine condition, \$200. | |

MISCELLANEOUS.

- | | |
|---|---|
| Cold saw, 5 in. Nutter & Barnes. | Grinder, piston ring, Heald. |
| Grinders, twist drill, Worcester Polytch., 1 large, carrying 3 wheels, and 1 small. | Shaper, 24 in. Gould & Eberhardt. |
| | Sizing machine, P. & W. automatic, 30 in. bet. centers. |

SECOND-HAND MACHINERY

FOR SALE BY

**The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago
610 Merrill Building, Milwaukee, Wis.**

Having recently purchased the entire shop equipment of several manufacturing concerns, one of which is the McIntyre Watch Company, we offer for sale a variety of high class used machinery and give below a partial list.

LATHES.

- 14x5 Hendy with geared head, single belt drive, compound rests, quick change gears, like new (4.)
 - 14x5 Hendy with geared head, single belt drive, compound rest and taper att.
 - 14x6 Prentice Bros., quick change gear and chuck fitted, little used.
 - 14x8 Lodge & Shipley, quick change gear and compound rest, practically new.
 - 14x8 Hamilton, style B, compound rest, excellent condition.
 - 16x8 Lodge & Shipley patent geared head, quick change gear, compound rest, 12 in. 4 jaw chuck fitted, good as new.
 - 16x6 Bradford, standard pattern, compound rest, good order.
 - 16x5 Davis, compound rest, new, specially priced.
 - 18x8 LeBlond, heavy pattern, quick change gear, compound rest, good.
 - 18x6 Schumacher & Boye, cabinet leg, compound rest, chuck fitted, good order.
 - 19x8 Economic with quick change gear, compound rest, and taper attachment, chuck fitted, used about two weeks.
 - 24x14 Lodge & Shipley quick change gear, comp. rest, practically good as new.
- Numerous other lathes, various sizes and makes.

TURRET LATHES.

- Libbey latest pattern turret chucking lathe, used not to exceed thirty days, absolutely good as new for practical use.
- 20 in. Fay & Scott univ. tur. lathe fully equipped with all accessories, fine order.
- 18 in. Fay & Scott universal turret lathe, A-1 working order.

BENCH LATHES.

- Elgin Tool Company fine machinists' bench lathes with compound slide rests and countershafts, like new (4.)

MILLING MACHINES.

- | | |
|--|--|
| No. 6 Whitney, hand, like new (2.) | No. 3 Owen, plain, double bk. gd. |
| No. 10 Pratt & W., hand, like new. | No. 18 Kempsmith, double back geared, all automatic feeds. |
| No. 1 Cincinnati, univ., complete. | No. 12 Brown & Sharpe, plain. |
| No. 24 Oesterlein, plain, bk. gd. | No. 1 Garvin, Lincoln type (2.) |
| No. 1A Kearney & Trecker, all geared, single belt drive. | 24x6 Ingersoll slab millers (2.) |

BORING MILLS.

- 60 in. Colburn, 2 swivel heads and central boring head, plain table, like new.
- 40 in. Rogers with 2 swivel heads.

PLANERS.

- | | |
|----------------------------------|---|
| 22x22x6 Gray, fine condition. | 48x48x20 Belmer, 4 hds., good order. |
| 24x24x6 Pond, fine condition. | 72x72x14 Niles, 4 heads, good as new. |
| 22x32x10 Gray, 2 heads, good. | 48x48x16 Detrick & Harvey, open-side, 3 heads, excellent condition. |
| 36x36x12 Gray, 2 heads, good. | |
| 44x44x12 Pond, 2 heads, rebuilt. | |

RADIAL DRILLS.

- | | |
|-------------------------------------|----------------------------------|
| 6 ft. arm Bickford, gear box drive. | 2 ft. arm Fosdick, cone drive. |
| 5 ft. arm Bickford, gear box drive. | 5 ft. arm Western, universal. |
| 5 ft. arm Fosdick, gear box drive. | 4 ft. arm Cincinnati, universal. |
| 4 ft. arm Bickford, cone drive. | |

UPRIGHT DRILLS.

Large stock of upright drills 10 to 34 in.

What Size Are You Interested In?

POWER PRESSES.

- | | |
|-------------------------------------|-----------------------------------|
| No. 2 American Can Company. | No. 36 Niagara Machine & Tool Co. |
| No. 3 American Can Company. | No. 37 Niagara Machine & Tool Co. |
| No. 4 American Can Company. | No. 20 Bliss. |
| No. 4 Consolidated Press & Tool Co. | No. 3 Walsh. |
| No. 75 Michigan. | No. 40 Perkins. |

MISCELLANEOUS.

We have a large stock of miscellaneous tools to meet almost every requirement, and would solicit your inquiry for anything you may want in the machine tool line.

SECOND-HAND MACHINERY

FOR SALE BY

J. J. McCabe,

30 Church St., New York City.

BORING MILLS—UPRIGHT.

10 ft. Niles B. P. Co., 2 heads.

8 ft. Niles, 2 heads.

7 ft. Bement, 1 head.

4 ft. Colburn, 2 heads.

3 ft. Niles, 2 heads.

3 ft. Colburn, turret hd., thread sd.

BORING AND DRILLING MACHINES—HORIZONTAL.

3 in. bar floor boring, drilling & tapping machine, double column, with heavy bed-plate, cost new \$3,100; condition good as new, Niles tool works.

2½ in. bar horizontal boring and drilling machine, knee type, Bement.

2½ in. bar horizontal boring and drilling machine, knee type, Bement.

2½ in. bar horizontal floor drilling machine, Corliss.

1½ in. bar horizontal boring and drilling machine, knee type, Garvin.

RADIAL DRILLS.

6 ft. plain, heavy pattern, Baush.

5½ ft. plain, with table, Sellers.

5½ ft. full-universal, Bement.

5 ft. plain, heavy, Prentice.

4½ ft. full-universal, Niles.

4 ft. plain, Gang Co.

3 ft. plain, with table, Bickford.

MILLING MACHINES.

36 in.x11 ft. planer type, Newton.

30 in.x14 ft. planer type, Bement.

22 in.x5 ft. planer type, Ingersoll.

Special milling machine, two milling heads, 8 and 14 in. American.

RAILROAD TOOLS.

84 in. single-head, driving-wheel lathe, Niles.

76 in. double-head, driving-wheel lathe, Niles.

60 in. double-head, driving-wheel lathe, Bement.

27 in.x8 ft.x11 ft. rod planer, Bement.

80 in. quartering machine, Bement.

Single-end axle lathe, Bement.

Axle and centering machine, 10 in. Bement.

Car-wheel grinder, double-head, Springfield.

20 in. frame slotter, Sellers.

8 ft. hydraulic flanging press.

BRIDGE AND BOILER TOOLS.

10 ft. hydraulic riveter, Chambersburg.

6 ft. hydraulic riveter, Bement.

10 ft. bending rolls, hinged housing.

No. 1 H. & J., straightening rolls.

38 in. shear, Bisby & Endicott.

24 in. punch, heavy, weight, 6,000 lbs.

15 in. double end, punch & shears.

9 in. punch, single, Hilles & Jones.

PLANERS.

72 in.x26 ft. Sellers, 4 heads.

64 in.x16 ft. Bement, 4 heads.

61 in.x16 ft. Sellers, 2 heads.

50-50 in.x14 ft. Gray, 2 heads.

43 in.x16 ft. Niles, 2 heads.

42 in.x14 ft. Pond, 2 heads.

38 in.x10 ft. Betts, 2 heads.

36 in.x12 ft. Niles, 3 heads.

36 in.x10 ft. Bement, 2 heads.

36 in.x10 ft. Pond, 2 hds., ex. heavy.

36 in.x8 ft. Bement, 2 heads.

36 in.x8 ft. Pond, 1 head, extra heavy.

30 in.x8 ft. Sellers, 1 head.

30 in.x8 ft. Fitchburg, 1 head.

27 in.x7 ft. Putnam, 1 head.

26 in.x6 ft. Pease, 1 head.

24 in.x6 ft. Pond, 1 head.

22 in.x5 ft. Pond, 1 head.

17 in.x4 ft. Bridgeport, 1 head.

LATHES.

102 in.x20 ft. Niles-Bement-Pond.

70 in.x21 ft. Fitchburg.

64 in.x36 ft. Bement.

60 in.x18 ft. Fitchburg.

54 in.x21 ft. Putnam.

52 in.x28 ft. Newark, for heaviest work.

50 in.x22 ft. Putnam.

48 in.x24 ft. Fitchburg, blocks 66 in.

38 in.x16 ft. Bement.

36 in.x28 ft. Fay & Scott.

36 in.x20 ft. American, blocks 43 in. taper.

34 in.x12 ft. Fitchburg.

32x40 in.x15 ft. Pond.

30 in.x23 ft. Pond.

30 in.x17 ft. Pond.

28 in.x14 ft. Sch. & Boye, qt. change.

26 in.x13 ft. taper, Bement-Miles.

25 in.x12 ft. Harrington.

24 in.x12 ft. Niles.

22 in.x10 ft. Pond.

21 in.x10 ft. Fay & Scott.

20 in.x12 ft. Pond.

20 in.x10 ft. Putnam.

18 in.x8 ft. Reed.

SECOND-HAND MACHINERY.

J. J. McCabe—Continued.

MISCELLANEOUS.

Slotter, 24 in. Sellers.
Slotter, 18 in. Bement.
Slotter, 12 in. Sellers.
Steam hammer, 4,000 lbs. Bement.
Gear cutter, 30 in. Gould & Eber.

Cutting-off machine, 4 in. Pratt & Whitney.
Cutting-off machine, 3 in. Hurlburt.
Key-seater, 12 in. stroke, Newton.

Complete list 140 now issued—write.

FOR SALE BY

Cincinnati Machinery Co., 308 Johnston Bldg., Cincinnati, Ohio

Machine Tool Bargains.

ENGINE LATHES.

16x5 Reed, s. c., r. & f. rest.
12x5 Fairbanks c. r., s. c.
14x6 Porter, s. c., Van Horn rest.
21x16 Rahn & Carpenter, dbl. hd.
28x15 New Haven, c. r., s. c.
60 in. Stevens pulley lathe.
Niles single head axle lathe.

12x5 American, p. r., h. s., s. c.
14x6 American, p. r., h. s., s. c.
24x15 New Haven, c. r., s. c.
26x15 New Haven, c. r., s. c.
60x22 American, c. r., s. c., latest pattern.

PLANERS.

16x15x3 New Haven.
26x24x7 G. A. Gray, 1 head.
22x22x12 Gray, 2 heads.
26x26x12 Chandler, 2 heads.

24x24x6 E. W. Pond, 1 head.
26x26x9 G. A. Gray, 1 head.
26x26x14 Niles, 1 head.
48x48x12 Gray, 2 heads.

DRILLS.

20 in. Aurora.
20 in. sliding hd., p. f., b. g.
20 in. sliding hd., p. f., b. g.
4 ft. Niles, radial drill, full universal.

24 in. sliding hd., p. f., b. g.
32 in. sliding hd., p. f., b. g.
48 in. sliding hd., p. f., b. g.
5 ft. Gray radial drill, plain.

SHAPERS.

16 in. crank. G. & E.
24 in. crank. Barker.
30 in. crank. G. & E.

18 in. crank. Barker.
24 in. geared, L. & D.

SCREW MACHINES, TURRET LATHES, ETC.

Brown & Sharpe, h. s. machine, for 1 in. stock.
No. 1 Dreeses, p. h., automatic chuck and wire feed, h. s.
14 in. Foster & Kimball, plain head turret.
16 in. Dreeses, friction hd. turret.

16 in. Barnes & Oliver, p. hd. turret.
14 in. Cleveland, semi-automatic.
No. 1 Dreeses, 1 plain head.
16 in. Warner & Swasey, p. hd.
13 in. Dreeses, p. hd. turret with 1 box chuck.
16 in. Dreeses p. hd. turret.

GRINDING MACHINES.

No. 3 Brown & Sharpe, universal cutter and reamer.
Garvin bench cutter and reamer.
No. 1 Dayton universal, tool grinder, complete.

20 in. Blount water tool grinder.
No. 1 Cincinnati, plain, c. & r. g.
Oesterlein univ. cutter and reamer.
No. 5 Diamond grinder, complete, with hd. column and countershaft.

A large assortment of Buffers, Polishers, etc.

MISCELLANEOUS.

Boring and milling machine, hor., 4 in. bar, Niles-Bement.
Boring and turning mill, vert., 30 in. Bullard.
Coiling machines, spring, (2).
Gear cutter, 24 in. G. & E., full auto.
Index centers, pl., 10 in. Brown & S.
Index centers, 10 in. U. Brown & S.

Keyseater, No. 0 Mitts & Merrill.
Milling machine, valve, 2 spindle Warner & Swasey.
Nut tapper, 4 spindle.
Pump, power, Weiman.
Punch press, No. 5-C Ferracute, inclinable.

Also a variety of other miscellaneous machines, too numerous to mention. If you want anything in machine tools, write us. We can furnish it. We buy machine tools for spot cash or exchange new for second-hand.

SECOND-HAND MACHINERY

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave.

St. Louis, Mo

LATHES.

15x8 American.
22x12 Screw cutting lathe.

23x8 New Haven.

DRILLS.

28 in. Pond, sliding head.
32 in. Lodge & Davis, sliding head.

30 in. Gang, radial.
36 in. Dreeses, radial.

PLANERS.

22x22x5 Pease.

20x30x8 Flather.

MISCELLANEOUS.

Air compressor, 10x12, belted.
Air compressor, 900 cu. ft., steam driven.
Air tank, 36 in. x 8 ft.
Bolt cutter, 1 1/2 in. National.
Bolt header, 1 in. National.
Boring machine, horizontal, Betts, large.
Bulldozer, No. 3 Williams & White.
Grinder, surface, Goddard.
Hammer, vacuum, 60 lb. Yeakley.

Hammer, 90 lb. Justice.
Pipe mche., 6 in. Bignall & Keeler.
Pipe mche., 12 in. Bignall & Keeler.
Punch, cap. 3/4 in. Queen City.
Punch and shear, 42 in. Wickes Bros., cap. 4 in. in 1/2 in.
Punch and shear, 48 in. throat.
Screw machine, 1/2 in. Cleveland, semi-auto.
Screw machine, 1 in. Dreeses.
Wheel press, hydraulic, 36 in.

FOR SALE BY

A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago.

LATHES.

9x42 in. Shepard, hollow spindle.
14x6 Putnam, r. & f., cheap.
16x6 Shellenbach, comp. rest & h. s.
16x8 Davis, compound rest, hollow spindle.

18x8 LeBlond, c. r., h. s.
20x12 LeBlond c. r., h. s.
28x25 Putnam, compound rest.
30x10 Powell, compound rest.

SCREW MACHINES AND TURRET LATHES.

No. 00 Brown & Sharpe, automatic turret forming (2).
No. 3 16 in. Pearson screw machine.
1/2 in. Cleveland, automatic.
1/2 in. Pratt & Whitney, automatic (5)
1/2 in. Cleveland, automatic.

1/2 in. Cleveland, semi automatic.
2 in. Cleveland, automatic.
14 in. Pratt & Whitney, 1 1/2 in. h. s.
16 in. Windsor, raised to 24 in.
18 in. Davis & Egan, 2 1/2 in. h. s.

DRILLS.

6 spindle Fox, sensitive.
20 in. Blaisdell, rad. b., pl. 1.
3 spindle Baker.

28 in. Barnes, power feed, b. g.
3 ft. Bickford plain radial.
4 ft. Universal radial.

MILLING MACHINES AND GEAR CUTTERS.

No. 2 Universal, vertical attachment.
No. 2 Garvin, Lincoln.

No. 2 Kempsmith, plain.
36 in. Fellows gear shaper.

PLANERS AND SHAPERS.

15 in. American, crank.
16 in. Smith & Mills, geared.
24x24x6 Putnam planer.

23x6 Sellers spiral dr. planer.
36x36x10 Gray.
35x35x12 Niles 2 heads.

PUNCH PRESSES.

No. 2 R. & K., o. b. i. press.
No. 4 R. & K., o. b. i. press.
No. 3 Michigan.

No. 8 Cady.
No. 75 1/2 Blus, geared, like new.
No. 3 R. & K., o. b. i. press.

MISCELLANEOUS.

Hammer, drop, 300 lb. Norton.
Hammer, steam, double frame, 650 lb. Morgan & Williams.
Hammer, 35 lb. Williams & White, Justice.

Hammer, power, 50 lb. Dismelt.
Hammer, power, 50 lb. Fairbanks.
Hammer, helve, 60 lb. Bradley.
Keyscater, 16 in. Morton.

Our latest "Yellow Book" is ready. drop us a postal card.

You can have it regularly if you'll

SECOND-HAND MACHINERY

FOR SALE BY

The E. L. Esley Mch'y Co., 555-557 Washington Blvd., Chicago, Ill.
BORING MILLS.

60 in. Niles boring machine, complete with face plate jaws and c. s.
37 in. Streit pulley boring machine.

DRILLS.

2 spindle Mechanics 20 in. gang, plain lever feeds, not b. g. nor p. f.
4 spdl. No. 3 Garvin, mult., table fd.
4 spindle Quint turret drill.
6 spdl. No. 3 Garvin, mult., table fd.
3 spindle 20 in. W. F. & J. Barnes gang drill, plain lever feed.
4 spindle 20 in. W. F. & J. Barnes gang drill, all spdls. p. f., 1 sp. b. g.
4 spindle Barnes drill Co.'s all gd. gang drill, b. g. and p. f., nearly new; late pattern.
22 in. Bickford, sl. hd., overhauled.
18 in. Baker Bros. large cap. high spd. drill presses comp., nearly new, (2).
25 in. Barnes sta'ry hd., b. g. and p. f.
26 in. W. F. & J. Barnes, sliding head, drill complete; fine condition.
28 in. Hamilton, sliding head, back geared, power feed.
28 in. Moline, sliding head, upright.
34 in. W. F. & J. Barnes, sl. hd., comp.
3 ft. Hilbert, plain, radial, b. g. and tapping attachment.

ENGINE LATHES.

14 in. x6 ft. Champion, standard eng. lathe, b. g., used 14 months.
14x7 Blaisdell, taper attachment.
15x6 Walcott, back geared, rebuilt.
16x6 Muller, hollow spindle, p. c. f.
16x8 LeBlond, pl. rest, 1 1/2 in. hole.
20x6 Flather, overhauled, fine cond.
21x12 Blaisdell, with 16 in. 4-j. chuck.
24x12 Pond, b. g., fine condition.
32x18 New Haven, compound rest.
36x14 Pratt & Whitney, solid spndl.
40x16 Fifield, late pattern, triple geared, eng. lathe, complete.

MISCELLANEOUS LATHES.

No. 2 American Waltham Precision, turret, dbl. cut-off, c. s. abt. 20 collets; fine order.
No. 21 Garvin, plain head, Monitor, 13-16 in. hollow spindle.
No. 212 in. Foster plain hd. Monitor.
14 in. Monitor, plain head, F. K.
18 in. Gisholt, standard turret, comp.
24 in. Davis chucking, set over p. f. turret.
28 in. Gisholt, standard turret, comp.
Pearson b. g. hub machine, like turret lathe, 28 in. h. s.
30 in. Henly pulley lathe, for boring and turning pulleys.
30 in. x8 ft. P. & W., pl. hd. chucking lathe, 24 in. 4-j. chk., p. f. to t. s.
60 in. Niles pulley turning lathe, and c. s. complete.

MISCELLANEOUS.

Air compressor, 13x8x12 in. Curtis, belt dr., cap. 161 cu. ft. per minute.
Air hammer, No. 66 Ingersoll-Rand, long stroke, nearly new.
Baling press, Champion, for baling scrap tin or iron.
Blower, steel, No. 10 Sturtevant, 7 ft. high, 18 in. outlet.
Bolt cutter, 14 in. Adams, single Landis head.
Bolt cutter, 2 in. Bement, single.
Bolt pointer, 1 in. Adams.
Buffing lathe, 2 h. p. motor drive, 110 volts, d. c.
Burr mill, wet tumbling, Ross, barrel 24 in. diam., T. & S. pulleys.
Cold saw, No. 2 Q. M. S., large, univ., 24 in. blade.
Cold saws, No. 4 Keystone, 4 1/2 in.
Cold saw, No. 14 Higley, fine order.
Gear cutter, 18 in. Becker, spur gears only, used 3 months.
Grinder, cock, single spell.
Grinder, disc, 20 in. Ransom.
Grinder, 10x48 in. Landis, pl., fine.
Grinder, 20x8 in. Diamond, single wheel, wet.
Miller, hand, No. 2 Fox.
Miller vise and c. s. feeds, 20x6 1/2 x17 Osterlein, plain.
Motor, 10 h. p. Crocker-Wheeler, 230 v., d. c., starting box and switch.
Pipe mche., 4 in. Borden, complete.
Planer, 25x22 1/2 x9 Pond, 1 head, overhauled.
Planer, 30x30x8 New H., 1 hd., c. s.
Planer, 36 in. Sellers, spec. dr., 2 hds. on rail, 12 ft. bed, wid. to 42 in.
Planer, 38x38x12 Gray, late pattern, 2 hds. on rail, excellent condition.
Profiler, 2 spindle, Ames, fine order.
Punch press, combination gear and fly wheel, 3,000 lbs. Crosby.
Punch or shear, cap. 1 1/2 in. rd., 4x1 in. flats, No. 2 Long & A., flywheel, single end, 8 in. throat.
Punch or shear, cap. 1 1/2 in. Hercules, 11 in. throat, gd. sgl. end, wt. about 10,000 lbs.
Rivet spinner, 8 in. National.
Screw machine, 2 in. Cleveland, standard automatic, 5 hole turret.
Threading mche., roll, Rudolphi & K.
Lot of second-hand machinists' vises.

A partial list of used machinery for quick delivery. Write for our complete list of new and used machinery, and state your wants; we may have it.

SECOND-HAND MACHINERY

FOR SALE BY

McCabe Machine Co.,

P. A. McCabe, Pres.,

95 Liberty St., New York City

Boring mill, 72 in. Betts, good.
Cylinder boring machine, 34 in. bar, Barrett, near new.
Drill, radial, 3½ ft. arm, Gang, good.
Gear cutter, automatic, capacity 30x8 in. x5 p., Eberhardt, good.
Grinder, automatic cutter and reamer, Greenfield, near new.
Grinder, universal, capacity 20x72 in., No. 7 Landis, near new.
Lathe, 15x6 Flather, near new.
Lathe, 20x10 American, good.
Lathe, 45x16 New Haven, near new.
Milling machine, universal, New Model No. 3 Becker, near new.
Milling machine, vertical, platen 42x14, No. 5-B Becker, near new.
Planer, open side, 36x36x10 Detrick & Harvey, near new.
Planer, 36x36x12 Powell, good.
Turret lathe, 18x6 Dreses, good.
Turret lathe, 2x24 in. Jones & Lamson, good.
Also motor, 15 h. p., switchboard, chucks, small tools, etc.
"Near new" indicates condition good as ever.
"Good" indicates condition first-class.

FOR SALE BY

Baird Machinery Company, 23rd & Smallman Sts., Pittsburg, Pa.

ENGINE LATHES AND TURRET LATHES.

18x6 and 18x12 New Haven.
22x8 Pond, has 17 in. 4-jaw chuck.
24x8 Ames and 24x16 Putnam.
28x16 Blaisdell, comp. rest, etc.
12x7 Warner & S. dbl. key lathe.
18x6 Am. brass turret lathe.
18x5 Am. Fox turret lathe.

PLANERS AND SHAPERS.

24x24x6 ft. 1 head.
30x30x8 New Haven, 1 head.
36x36x10 Putnam, 1 head.
28 in. Hendy, dbl. geared, 12 in. vis.

VERTICAL AND RADIAL DRILLS.

10 in. sensitive drill.
3 spindle Foote-Burt and Garvin.
2 ft. Gang & Co., radial, 1½ in. spl.
14 ft. Baush, plain, 1 11-16 in. spl.
4 ft. Fosdick, plain, univ. table.
5 ft. Betts, plain, 3 in. spindle.
5 ft. Prentice, plain, 2½ in. spindle.

GRINDERS.

Pratt & Whitney, twist drill.
Double end buffing stands.
28x3 grindstone, iron frame.
No. 2 Diamond, wet tool.

BOILER SHOP TOOLS.

10 ft. power bending roll.
5 ft. bending roll, drop housing.
30 and 40 in. hand rolls.
Pneumatic chipping & riveting hammers and air drills.
600 lb. dbl. leg steam hammer.
6, 7 & 8 in. air hoists.
4 and 6 in. tube expanders.
5 and 8 ft. hydro. pneu. riveters.

POWER PRESSES AND PUNCHES.

No. 21½ Bliss inclinable power press, not geared.
No. 5 Long & Allstatter, sgl. punch & shear, 4 in. throat, capacity ½ in. thru ½ in.
Dbl. punch & shear with 18 in. th.
Hand power punches & shears.
Cleveland bevel shear.
Hand screw punches.
Niagara power circle shear.

SCREW MACHINES AND

15 in. Dreses w. f. screw machine.
18x5 Meridan screw machine.
10 in. screw machine, semi-auto.

MILLING MACHINES.

Carter & Hakes hand miller.
Lodge & Davis plain miller.
22 in. Ingersoll single spindle slab.

MISCELLANEOUS.

O. & C. hack saw, 12 in. blade.
Reade cold saw, 10 in. blade.
Baird foundry cold saw.
Burr keyway broaching machines.
Nickel plating plant, complete with dynamo tanks, etc.
Acme 1½ in. steel bed bolt header.
Acme 2 in. single bolt cutter.
48 in. car wheel boring machine.
Nos. 7, 8, 9 Sturtevant blowers.
Rivet and blacksmith forges.
25 H. P. Bessemer gas engine.
8 H. P. vertical steam engine.

SECOND-HAND MACHINERY

FOR SALE BY

W. L. Perkins Jr. & Co., 136 Liberty St., New York City, N. Y.

LATHES.

4 in. x12 ft. Harrington, triple geared, plain turning.....	\$750	22 in. x10 ft. Harrington, compound rest.....	\$275
4 in. facing lathe.....	250	20 in. x10 ft. Harrington.....	175
10 in. x14 ft. Harrington compound rest.....	375	20 in. x8 ft. Harrington.....	175
10 in. x8 ft. Johnson.....	475	20 in. x8 ft. Bement wood lathe.....	50
12 in. x14 ft. Harrington.....	550	18 in. x5 ft. Reed stud lathe.....	125
10 in. x15 ft. Sellers.....	650	16 in. x8 ft. Harrington.....	150
10 in. x14 ft. Bement.....	575	16 in. x6 ft. Atlantic pattern lathe.....	75
10 in. x12 ft. Pond.....	475	14 in. x6 ft. Reed, rise and fall.....	125
10 in. x20 ft. Worcester.....	250	13 in. x5 ft. Prentiss rise and fall.....	125
		12 in. x5 ft. Pond, rise and fall.....	95

PLANERS.

4 in. x7 ft. Sellers, 1 head.....	\$675	26 in. x6 ft. Putnam, 1 head.....	\$200
10 in. 30 ft. Pond, 4 heads.....	1500	25 in. x6 ft. Sellers, 1 head.....	275
10 in. x26 ft. Sellers, 2 heads.....	1000	17 in. Bement, crank.....	125
10 in. x8 ft. Pond, double head.....	550		

RADIAL DRILLS.

4 ft. Bement half-universal.....	\$300	6 ft. Niles, plain.....	\$750
5 ft. Bement, half-universal.....	350	8 ft. Bement, half-universal.....	1000

UPRIGHT DRILLS.

10 in. Harrington, sliding head.....	\$300	32 in. Pond, sliding head.....	\$150
10 in. Sellers, stationary head.....	125	30 in. Aurora, sliding head.....	150
10 in. New Haven, sliding head.....	200	4 spindle gang.....	25
10 in. Gould & Eber., slid. hd.....	175	10 in. Foote-Burt, four-spindle sensitive.....	125
10 in. Bement, sliding head.....	125		

TURRET LATHES.

24 in. Gisholt.....	\$1225	2x24 in. Jones & Lamson.....	\$450
24 in. Gisholt.....	1075	24 in. wire fd. Pratt & Whitney.....	550
25 in. Conradson.....	850	18 in. American, brass turret.....	275
27 in. American, Gisholt type.....	975		

MILLING MACHINES.

10 in. x12 ft. horizontal Pratt & Whitney.....	\$1500	24 in. x8 ft. horizontal Bement.....	\$1250
10 in. x11 ft. Newton horiz.....	1400	Newton valve miller.....	150
		Pedrick & Ayer, large size.....	175

BOILERS-ENGINES-BLOWERS.

Sturtevant blower.....	\$ 25	14-26x48 engine, L. H. Green.....	\$1700
Sturtevant blower.....	50	16x30 in. Corliss engine.....	850
100 horse power Heine boiler.....	550	50 horse power vertical.....	800
100 horse power Heine boiler.....	400	18x20 Corliss.....	1500
4 in. cupola.....	500	Ball automatic C. C.....	250
Magnetic separator.....	100		

MISCELLANEOUS.

No. 2 hor. boring machine 24 in. bar, Bement.....	\$600	Water tool grinder, wheel 38x4 in.....	\$150
10 in. bar Garvin hor. boring machine.....	275	Water tool grdr., wheel 28x4 in.....	125
Horizontal traverse drill.....	25	19 in. x9 ft. 3 in. planer type grdr.....	400
12 in. traveling-head shaper.....	250	48 in. high-duty saw grinder.....	100
20 in. Putnam friction shaper.....	235	14 in. bolt header, Ajax.....	450
8 in. Hewes & Phillips slotter.....	300	14 in. bolt cutter.....	125
12 in. Sellers slotter.....	400	14 in. double hd bolt cutter, Acme.....	350
16 in. spring plate rolls.....	25	6 spindle nut tapper.....	400
20 in. hand rolls.....	40	4 in. pipe machine, Cox.....	250
8 ft. 4 in. straightening rolls.....	850	4 in. pipe machine, Armstrong.....	75
6 in. hand punch.....	12	Yankee twist drill grinder.....	50
11 in. power punch.....	75	Whiton centering machine 4 in. 50 lb. Williams-White hammer.....	40
20 in. Long & Allstatter punch 14x1 in.....	300	Foot hammer, Perkins.....	25
10 in. Long & Allstatter punch 14x1 in.....	350	12x8x12 pump.....	40
Cutter grinder (Cleveland).....	100	12x8x12 pump.....	100
Surface grinder, Walker.....	300	6x4x6 Worthington pump.....	40
		Broaching mche., 2 in. square.....	75
		Cold saw, Burr, cap y 6 in. round.....	125
		Cold saw, 3 in. round, Lucas.....	100

SECOND-HAND MACHINERY

FOR SALE BY

Frank Toomey, Inc.,

127 N. Third St., Philadelphia, Pa.

MILLING MACHINES.

No. 1 Brown & Sharpe, universal (2).
36 in. x 12 ft. heavy slab miller.

No. 1½ Hendey, plain.

HAMMERS AND

1500 lb. Bement & Miles double
frame hammer.

600 lb. McDougall & Potter.

1,200 lb. McDougall & Potter.

36 in. Morris radial drill.

800 lb. Bement M. & Co., eagle frame.

48 in. Gang radial drill (2).

LATHES.

12x6 Hendey, tool room, full equip-
ment.

18x8 Rahn-Carpenter.

14x5 Hendey, tool room, full equip-
ment (5).

20x10 Schumacher & B., blocked to

24 in., with turret attachment.

24x10 modern, blocked to 34 in.

MISCELLANEOUS.

Boring mill, vertical, 10 ft. Betts.

Shaper, 20 in. Smith & Mills.

Planer, 30x30x6 Bement.

Shaper, 26 in. Gould & Eberhardt.

FOR SALE BY

The Randle Machinery Co.,

1739 Powers St., Cincinnati, O.

BOILERS.

Horiz. tubular, from 6 to 150 h. p.

Fire box, from 8 to 80 h. p.

Vertical, from 3 to 50 h. p.

ENGINES.

Corliss, from 50 to 250 h. p.

Automatic, from 15 to 100 h. p.

Throttling, from 5 to 150 h. p.

PULLEY LATHE.

60 in. Stevens.

BLOWERS.

Nos. 2 and 4 Roots.

PIPE THREADER.

4 in. Camden.

PLANER.

42x16 Bement-Laugherty.

AIR COMPRESSOR

8x6x9 locomotive type.

MISCELLANEOUS.

Heaters, tanks, pumps, exhausters, blowers, saw mill and general machinery.

Write for list. Also a full assortment of new machinery.

Sole manufacturers of the celebrated "Leader" Injectors and Jet Pumps.

FOR SALE BY

J. W. Wright & Co.,

2nd and Morgan Sts., St. Louis, Mo.

LATHES.

13x5 plain turret.

16x6 Le Blond, compound rest.

16x8 Bradford, plain rest.

18x8 American, compound rest.

18x10 Bradford, compound rest.

20x12 Gray, compound rest.

24x12 Fitchburg, compound rest.

42x15, compound rest.

PLANERS AND SHAPERS.

15x15x36 in. New Haven.

24x24 in. x 6 ft. Whitcomb.

24x24 in. x 8 ft. Pease, 3 heads.

36x36x12 Gray, shop worn only.

56x56x12 ft. Gray.

PRESSES.

No. 3 Swaine, foot (7).

No. 35 Swaine, power.

No. 37 Swaine, power (2).

Small presses, power (2).

SCREW MACHINES.

No. 5½ Bardons & Oliver, 2½ in. capacity, A-1.

DRILLS.

3½ ft. Foadick, radial.

4 ft. Gang, radial.

MOTORS.

5 h. p. Wagner, a. c., 220 v., 60c., s. p.

5 h. p. Fairbanks, a. c., 220 v., 60c., 3p.

5h. p. Ft. Wayne, a. c., 220 v., 60c., 3p.

50 light dynamo.

MISCELLANEOUS.

Blower, No. 2 Roots.

Pipe machine, 2 in. Jarecki.

Bolt cutter, 1½ in. Nations, double.

Punch and shear, combination, Ohl.

Cock grinder.

Tapper, ½ in. W. & R.

Cutter grinder, Cincinnati.

Vise, No. 5-F., B. & S.

Hammer, power, No. 4 Perfect.

Wheel press, 500 ton.

Miller, universal, No. 1½ Becker.

SECOND-HAND MACHINERY

FOR SALE BY

Marshall & Huschart Machinery Company,

17 S. Jefferson St., Chicago.

334 N. Capitol Ave., Indianapolis.

915 Chemical Bldg., St. Louis. 418 Railway Exc., Milwaukee.

BOLT CUTTERS.

1 in. National, single head.
1 in. Acme, double head.
1½ in. Adams, single head.

1½ in. Acme, single head.
1½ in. Webster & Perks, dbl. head.

BORING MILLS.

No. 4 Betts, cylinder boring, with countershaft.
No. 1 Pawling & Harnischfeger, horizontal.
14-20 ft. Niles extension.

DRILLS.

18 in. Barnes, lever feed, r. a. drive.
23 in. Barnes, w. and l., p. f. & b. g.

2 sp. Baker Bros. h'vy pat. style "F."
3 spindle Redington, sensitive.

GEAR CUTTERS.

No. 1 D. E. Whiton automatic, for
spur and bevel gears.
Farwell gear hobber.

No. 2 D. E. Whiton automatic gear
cutter, complete.
40 in.x9 in. G. & E., Victoria.

GRINDERS.

Springfield water tool grinder.
American twist drill.
Barnes water tool.
No. 3 Diamond, water.
No. 6 Diamond.
No. 7 Ransom.
Garvin, cutter.

14 in. duplex, wet and surface.
20 in. Ransom, water.
No. 50 Saxon, cylinder.
12 in.x32 in. Landis, plain.
No. 4 Landis universal, complete,
good as new.

HAMMERS.

50 lb. Williams & White, spring.

800 lb. Ferris & Miles, steam.

KEYSEATERS.

No. 60 Baker.
Morton.

4 in. stroke, Davis.

LATHES.

17x10 New Haven, power cross feed.
20x8 Lodge & S., with tur. on shears.
24x12 Lodge & S., pat. hd., taper att.
25x20 Putnam, c. r., power cross fd.
25x14 New Haven.
30-36x16 Bradford, c. r., p. c. f.

36 in. Niles pulley, worm drive.
38x14 New Haven, c. r., p. c. f.
38x19 New Haven.
36-42 in.x18 ft. LeBlond.
48x22 Fifield, c. r., triple gears.

TURRET LATHES.

2x24 in. Jones & Lamson, flat turret.
25 in. Pond, rigid turret.
25 in. Gisholt turret.

42 in. New Haven turret.
20 in.x6 ft. turret lathe, with p. f. to
f. b. g.

MILLING MACHINES.

Grant miller.
Buckeye miller.
No. 2½ Newton duplex.
15 in.x8 ft. Keystone slab.
No. 3 Becker-Brainerd, geared feed.

No. 3 Becker-Brainerd, belt feed.
No. 3 Cincinnati, plain.
No. 3-B Owen, plain.
No. 4 Garvin, plain.

PIPE MACHINES.

2½ in. to 6 in. Curtis, hand, complete
with dies.

Saunders, hand.
No. 7 Jarecki.

PLANERS.

16x16x4 Hendey, spur gear drive.
17x4 Whitcomb.
24x24x7 New Haven.
25x6 Sellers, spiral drive.

28x26x7 Niles.
27x27x7 ft. 6 in. New Haven.
30x30x5 Pond.
26x36x10 Pratt & Whitney.

PRESSES.

No. 118 Crosby, inclinable, open back
No. 119 Crosby, inclinable, open back

No. 1 Cady, inclinable, open back.
36 in. Ferracute, notching.

MISCELLANEOUS.

Cold cut saw, 12 in. Cockran & Bly.
Screw machine ½ in. Cleveland, auto.

Slotters, 10 in. Putnam.

The above comprises only a partial list of the tools we have in stock. Send for complete list of second-hand tools. We also carry a large stock of new machines. See our demonstrating room.

SECOND-HAND MACHINERY

FOR SALE BY

New York Machinery Exchange, - 50 Church St., New York City.

BORING MILLS.

10 ft. Niles, 2 heads, vertical.	Niles Tool Works, 80,000 lb. hor.
92 in. Pond, 1 head, vertical.	zontal boring mill, 6 $\frac{1}{2}$ in. spindle.
37 in. Bullard, 2 heads, vertical.	Betts, horizontal, 4 in. spindle.
30 in. Bullard, 1 head, vertical.	

PRESSES.

No. 4 Bliss drawing press, weight 15,000 lbs.	
No. 4 $\frac{1}{2}$ Bliss drawing press, weight 17,000 lbs.	
Waterbury Farrell knuckle joint press, 150 tons capacity, weight 10,000 lbs.	
No. 4 Stiles punch press, weight 5,000 lbs.	
No. 75 Bliss punch press, weight 4,700 lbs.	
No. 4 V. & O. inclinable press.	

FOR SALE BY

The Osborne & Sexton Machinery Co., . . . Columbus, Ohio.

LATHES.

2x24 Jones & Lamson turret.	27x12 special lathe.
13x8 Barnes, compound rest, h. s. (2).	36x14 New Haven.
16x6 Fitchburg, compound rest.	36x18 New Haven.
18x6 rise and fall rest.	48x18 Fifield, triple geared.
20x18 Hamilton, quick change, taper.	

DRILL PRESSES.

4 spindle sensitive.	20 in. Davis, complete, nearly new.
20 and 21 in. plain and back geared.	54 in. Sellers, back geared, power id

PLANERS.

24x24x6 Lodge & Davis.	30x30x10 single head.
30x24x8 Steptoe-McFarlan.	20x30x12 Bement-Doherty.

MISCELLANEOUS.

Air compressor, 100 ft. Bury.	Hack saws, Nos. 1, 2 and 3.
Boring mill, 72 in. Sellers.	Hammer, steam, 1,100 lb. Morgan.
Boring mill, 83 in. Johnson.	Hammers, 3,000 and 5,000 lb. Toledo.
Bulldozer pump, 6 in. Meyers.	Keyseater, 1 in. W. P. Davis.
Cock grinder, double.	Press, foot, Niagara, heavy.
Flexible shaft drill, complete.	Presses, foot, No. 1 Consol. (7).
Gas engines, 10, 15, 25 and 100 h. p.	Presses, power, No. 0 Consol. (2).
Gas furnace, No. 2 Chicago.	Shaper, geared, 18 in. Lodge-Davis.
Grinders, wet, 20 in. wheel, (2).	Tapping mches., Webster & P., (2).

FOR SALE BY

The Cincinnati Planer Co., . . . Cincinnati, Ohio.
Second-Hand Tools—Bargains!

PLANERS.

24x24x6 Cinti., s. h. \$ 550	72x60x12 Pond, s. h. & s. h. 2,500
30x30x15 Cinti., s. h. arr. for d. h. 1,000	74x56x20 I. W. Pond, 2 heads, replaned and overhauled 82,000
36x36x14 Chandler, 2 heads 2,000	Niles floor head 300
40x30x8 Cinti., d. h. 1,000	

LATHES.

15x5 Dreses, turret 8200	16x16 automatic screw 8500
------------------------------------	--------------------------------------

DRILLS AND BORING MACHINES.

14 in. sensitive, American \$ 35	Upright, b. g., p. f., and tapping attachment, 24 in. Cincinnati. 300
Horizontal, No. 1 Fosdick, boring and drilling machine 800	

MISCELLANEOUS.

Balancing way, No. 3 Bowsher \$ 25	Hoist, C. & M., triplex, 5 ton \$ 60
Cranes, hand, 5 ton, 30 ft. span without hoist, (2) each 250	Hoist, Y. & T., triplex, 8 ton 60
Hack saw, Miller Falls 12	Motor, 25 h. p. Commercial 200
Hoists, Harrington, 4 ton (2) ea. 48	Variable sp. c. s., No. 3 Reeves 20
	Variable sp. c. s., No. 4 Reeves 30

All of the above machinery is in first-class condition. Prices f. o. b. Cincinnati.

SECOND-HAND MACHINERY

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

LATHES.

14x5 Fay & Scott, rise & fall.
14x6 Lodge & Shipley, patent head.
18x5 Pratt & Whitney, taper att.
12x5 Champion, comp. rest, p. c. f.
18x6 Porter, quick change.
21x8 Porter, c. r., power cross feed.
14x6 Hendey Norton, c. r., p. c. f.
18x8 Hendey, plain rest, power cross feed.
18x10 Perkins, compound rest, power cross feed.
20x8 Fay & Scott, compound rest, power cross feed.
20x10 Bullard, compound rest.
26x12 Fish, compound rest.
26x14 Perkins, compound rest, power cross feed.
27x16 Fay & Scott, compound rest, power cross feed.
28x10 Gleason, compound rest.
27x12 Pratt & Whitney, plain rest.

30x10 Putnam, compound rest, power cross feed.
33x17 Lathe & Morse, c. r., p. c. f.
32x17 Bement, triple geared, compound rest, power cross feed.
36x16 Reed, compound rest, power cross feed.
32x17 Bement triple geared, compound rest.
37x18 Sellers, compound rest, power cross feed.
38x20 Fay & Scott, compound rest, power cross feed.
40x18 Newark, triple geared.
46x38 Fitchburg, triple geared.
84x20 compound rest, power cross feed.
103x35 Bement, triple geared.
16 in. x 10 ft. automatic threading lathe.
60 in. Stevens pulley lathe.

MILLERS.

No. 2 LeBlonde, plain, back gear.
No. 24 Brown & Sharpe, plain.
No. 4 Burke, bench.
2 spindle American valve miller.
No. 3 Cincinnati, plain.
No. 1 1/2 Hendey, plain, back geared.

No. 4 Garvin, manufacturers type.
No. 2 P. & W., Lincoln pattern.
No. 1 Milwaukee, universal.
No. 9 Kempsmith, plain.
No. 2 Garvin, hand.
28x20x6 P. & W., slab miller.

DRILLS.

Foots-Burt, high speed.
Baker Bros. high speed.
38 in. New Haven, sliding head.
60 in. Bickford, stationary head.

3 1/2 ft. Niles, universal radial.
No. 1 Barnes horizontal.
10 spindle Gardam, adjustable.

SHAPERS.

15 in. Hendey, friction.
18 in. Putnam, friction.

26 in. Lodge & Davis, shifting belt.
28 in. Cincinnati, geared.

GEAR CUTTERS.

12 in. Gould & Eberhardt, hand.
No. 1/2 Schuchardt, gear hobber.

30 in. Gould & Eberhardt, auto.
60 in. Gould & Eberhardt, spur.

AUTOMATIC SCREW MACHINES.

1/2 in. No. 52 National-Acme.

1/2 in. Pratt & Whitney.

PLANERS.

22x22x4 Powell, 1 head.
24x24x7 Putnam.
30x30x6 Pond, 1 head.
30x30x7 Gray, 1 head.
36x36x10 L. W. Pond, 2 heads.

32x32x6 Pease, 1 head.
33x33x8 Betts, 1 head.
48x42x8 Farrell, 1 head.
48x48x15 Pond, three heads.
15 ft. plate planer.

HAMMERS.

50 lb. Bradley, compact.

600 lb. Erie, steam.

PIPE MACHINES.

2 in. Bignall & Keeler.

3 in. Jarecki.

MISCELLANEOUS.

Boring mill 10 in. Pond.
Cold saw, 24 in. Newton.
Engine, gas, 8 h. p., Fairbanks.
Engine, steam, 8x10 in. Ide.
Gear cutter, 60 in. x 12 ft. Gould & Eberhardt.

Grinder, cylinder, No. 60 Heald.
Grinder, No. 11 Brown & S., pl.
Profiler, 1 spindle, Garvin.
Slotter, 13 in. Bement.
Slotter, 16 in. Bement, crank.

Whitney Polishing Lathe

Does Quick Work And Lowers Costs



Machine Tool Construction

Some manufacturers think so well of it that they have been using as many as one hundred for over four years. You are assured of at least an hour's extra work a day. Its extreme convenience makes for quick handling. Instantly started and stopped with a lever. No belts to shift, no idlers, clutches or countershafts to use up valuable time.

And the price of this cost reducer is right, also

The New Britain Machine Co.
60 Chestnut St., NEW BRITAIN, CONN.

